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Final Report

National Understanding and Acceptance of Occupant Protection Systems

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16. Abstract

Regulations requiring new cars to be equipped with automatic occupant protection systems unless states representing two-thirds of the population enact mandatory safety belt use regulation by 1989 necessitated a study to determine the public's knowledge and acceptance of automatic systems and their support for and compliance with mandatory use laws (MULs). A telephone survey of a nationally representative sample of 1,213 individuals who drive or ride in cars was conducted in January-February 1986, which obtained information about three major areas: automatic safety belts, air bags, and MULs.

The survey found that the public is generally unaware of automatic safety belts and had concerns about them breaking down and trapping them in an accident. A substantial minority said they would unbuckle automatic belts but a smaller number reported they would permanently disconnect them. The majority of the public preferred manual belts to automatic belts. Air bags were preferred by the majority of the public and a third were willing to pay the estimated cost of air bags. Additionally, while the public recognizes the protection afforded by air bags, they expressed concern about their reliability (e.g., inflating by mistake, not knowing if it would work). MULs were supported by the majority of the public, and people in states with MULs in effect reported significantly higher safety belt use; those in states without MULs reported they would use belts more often if a MUL were enacted. Perceived strict enforcement and the inclusion of a fine in the MUL were related to reported increased belt use in states where MULs were in effect.

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EXECUTIVE SUMMARY

INTRODUCTION

An amendment to Federal Motor Vehicle Safety Standard No. 208, Occupant Crash Protection, requires that automatic occupant protection systems be placed in all passenger cars manufactured for sale in the United States on a phased-in schedule beginning on September 1, 1986. However, if states representing two-thirds of the nation's population enact adult mandatory safety belt use laws (MULs) that meet the criteria specified by the Secretary of Transportation before April 1, 1989, the requirement for automatic protection may be cancelled by the Secretary. These new rulings raised many questions concerning the public's knowledge and acceptance of automatic protection systems, in particular automatic safety belts and air bags, and the acceptance and impact of MULs in increasing safety belt use.

To develop a better understanding of these programs, the NHTSA contracted with SRA Technologies, Inc. to conduct a national survey to determine the public's current knowledge and acceptance of automatic safety belts and air bags, and support for and compliance with MULs. A telephone survey, conducted with 1,213 respondents in January-February 1986, gathered information about these three areas of interest: automatic safety belts, air bags, and mandatory use legislation.

AUTOMATIC SAFETY BELTS

Knowledge, Preference and Acceptance

Only 40 percent of the U.S. public had heard of automatic safety belts and those who have heard of automatic belts are generally uninformed about how the systems work. The public agrees that automatic belts provide protection, but has concerns about their breaking down or trapping people in the car in an accident. Respondents who had ridden in cars with automatic belts held more favorable opinions about them then those who were less familiar with the automatic systems. The presence of a mandatory use law had little effect on preference for automatic belts; however, their presence slightly reduced the respondents' likelihood of unbuckling automatic belts, but not permanently disconnecting them.

In general, respondents reported preferring manual belts to automatic seat belts (both in purchasing and renting a car), although about half the respondents said it wouldn't make a difference in buying a new car. However, the majority would not be willing to pay as much as the cost of an AM radio (approximately $40) for automatic belts. There was less acceptance by the individuals in need of automatic belts--those who rarely use belts, who were less likely to buy a car equipped with automatic belts, less willing to pay the cost of them, and more likely to unbuckle them. Forty percent of all respondents were likely to unbuckle and 20 percent to permanently disconnect automatic belts if their car was equipped with them. There was more acceptance for automatic belts among females, among respondents under age 60, among those with higher education, and those with more exposure to them.

Informational Needs

In general, the U.S. public requires considerable information about automatic safety belts. Most respondents had not even heard of them, and those who had volunteered only minimal information about how they worked. Furthermore, they expressed concerns about malfunctioning and trapping people in the car (the latter being a concern of the public found in surveys on manual seat belts as well). There is, therefore, a large information gap concerning automatic belts--both in areas specific to automatic belts and safety belts in general.

AIR BAGS

Knowledge, Preference and Acceptance

The U.S. public is very aware of and expresses a strong preference for air bags. A third said they would pay the cost of an AM/FM stereo radio/cassette player (approximately $300) to have air bags. Over 90 percent of the respondents felt that air bags provided good protection while at the same time they perceived certain disadvantages of air bags: that they might inflate by mistake, the driver would lose control or could not see, and the air bag would not work when needed. Those individuals most in need of a passive protection system--those who rarely wear safety belts--expressed the least preference for air bags and the least likelihood of purchasing a car equipped with air bags. The presence or absence of a MUL had no effect in respondents' acceptance of air bags.

Unfortunately, in the case of air bags, preference and acceptance (i.e., purchasing a car equipped with air bags) are two very separate issues. While the public appears to like the system and recognizes the protection it provides, they have some reservations about paying the price to have their next car equipped with air bags.

Informational Needs

Both the good points and limitations of air bags need to be explained to the public. The reliability of air bags--that they do work when needed --should be stressed. The public--and especially those who express a favorable opinion about air bags--needs to know that they do not provide protection in all types of crashes and that a seat belt is needed to afford full protection. And of course the cost of air bags needs to be addressed --both the initial cost and the replacement cost. It will be of no benefit to convince the public of the usefulness of air bags if they are not fully appraised of the cost at the same time.

MANDATORY USE LEGISLATION

The U.S. public is very aware of mandatory use laws in states where the laws were in effect--95 percent knew of the law--and the majority of the public supports those laws. Eighty percent of respondents in states

with MULs in effect favored the laws and 74 percent in states which had no law in effect would favor such a law. The primary reason given for favoring MULs was protection/saving lives and the primary reason for opposing MULs was infringement of rights.

MULs have had a significant impact on increasing safety belt usage, and particularly MULs which include a fine (over half of respondents in states with MULs with a fine and nearly half in states with MULs with no fines, versus only about a third in non-MUL states reported using their safety belt almost always or most of the time).

The strictness with which MULs are perceived to be enforced was related to safety belt usage. A majority of respondents (about two-thirds) who perceived their MUL as being strictly enforced reported that they almost always wore safety belts (compared to less than half of respondents who thought their MUL was not strictly enforced).

States which do not yet have MULs in effect can expect an increase in safety belt use if they implement a MUL: about two-thirds of respondents in these states who report that they use safety belts only rarely stated they would use safety belts almost always or most of the time if their state had a MUL.

RECOMMENDATIONS

Automatic Safety Belts

The public needs to be informed about automatic safety belts--how they work and that they work effectively (i.e., don't break down or trap people in accidents). Respondents' opinions were usually expressed in the absence of knowledge about automatic belts. Information needs to be collected on an on-going basis as more of the public experience automatic safety belts to determine public opinion and preference based on actual use. Two surveys are recommended: a telephone survey of purchasers and non-purchasers of cars with automatic safety belts to determine how opinions and attitudes toward the system change after having used it; and a survey at rental agencies of people who have rented a car with automatic belts, combining self-reported and observation data about belt use. In addition, NHTSA should promote the use of cars with automatic safety belts to the high-risk population, such as teenagers (through driver education courses using cars equipped with automatic safety belts), equipping police cars with automatic safety belts, and promoting their use in high-mileage fleet cars; and encourage states to make the disablement of automatic safety belt systems a violation of motor vehicle inspection regulations.

Air Bags

The public is informed about air bags, and a third are willing to pay the cost equivalent to an AM/FM stereo radio/cassette player for them. The public believes that air bags provide increased protection, but perhaps the

extent of that added protection is under-rated; additional information might increase the worth of air bags in the eyes of the public.

People who recognize the limitations of air bags are less willing to purchase air bags; however, they are more likely to wear lap belts for additional protection in air bag-equipped cars. Therefore, an unrealistically positive portrayal of air bags might discourage the use of lap belts. Conversely, an unrealistically negative portrayal of air bags would limit the public's acceptance of them. An appropriate educational strategy here would be (1) to present the positive aspects of air bags, namely, that they provide extra protection when used in combination with manual safety belts, and (2) to provide information which refutes the negative misconceptions that are widely held about them by the public.

More information is required to determine whose responsibility it will be to pay the cost of having an air bag replaced once it has inflated--this was a major concern of the respondents of this study. Will insurance companies cover the replacement cost in automobile insurance policies? If so, how would this impact on the public's acceptance of air bags? If air bag replacement costs will be covered by insurance, the public needs to be informed of this as well as the additional cost of such insurance. (Perhaps a trade-off in costs could be made with decreased costs of injury insurance and the increased cost of replacement insurance.)

Mandatory Use Laws

Mandatory use laws have proven effective in increasing reported safety belt use (and in observation studies as well), especially when the MUL includes a fine for noncompliance and is perceived as being strictly enforced. MULs should be promoted in those states not yet having a MUL and the importance of including a fine and enforcing the MUL explained. The impact of delaying implementation of a fine with the MUL needs to be determined. Observational and telephone surveys could provide information about changes in safety belt use in states before and after implementation of a fine for noncompliance. All states should be made aware of the need to enforce the law once it has become effective. The importance of fines and strict enforcement should be supported by data from surveys.

END NOTE

One final note. The three major areas studied in this project--automatic safety belts, air bags, and mandatory use legislation--are not "either/or" alternatives: they all add a dimension to providing protection to vehicle occupants and complement each other. Promotion of manual and automatic protection systems, as well as support for passage and enforcement of mandatory use laws should be pursued vigorously by the NHTSA, car manufacturers and dealers, public health organizations, insurance companies and other organizations whose purpose is to promote public health and safety.

SECTION 1

INTRODUCTION

STUDY BACKGROUND AND OBJECTIVES

In July 1984 the Secretary of Transportation amended Federal Motor Vehicle Safety Standard (FMVSS) 208 to require that automatic occupant protection systems be placed in all passenger automobiles manufactured for sale in the United States on a phased-in schedule beginning on September 1, 1986. This rule applies to 10 percent of manufacturers' production the first year, increasing to 25 percent of all cars built after September 1, 1987, 40 percent of those produced after September 1, 1988, and all cars manufactured for the U.S. market after September 1, 1989. If states representing two-thirds of the nation's population enact adult mandatory safety belt usage laws (MULs)[1] meeting certain requirements before April 1, 1989, the requirement for automatic protection may be cancelled.

Simultaneously with the new ruling, the Secretary announced the initiation of a national public information and education campaign to promote the understanding and use of occupant protection systems and acceptance of mandatory usage laws. Since the Secretary's decision on FMVSS 208, a large number of States and organizations have shown interest in enhancing voluntary promotional efforts and participating in the Department's public information and education efforts.

The new ruling concerning equipping cars with automatic protection systems coupled with passage of mandatory use laws raised many issues, among them:

- Is the public aware of, knowledgeable about and accepting of automatic occupant protection systems (i.e., would they purchase cars equipped with them and would they use the system once they had the car?);

- Is the public aware of and accepting of mandatory safety belt usage legislation? How effective are MULs in getting the public to use safety belts?

The two major issues presented in these two questions involve a number of subsidiary questions (e.g., How strongly are opinions held by the public concerning acceptance or rejection of automatic protection systems and/or mandatory usage laws? What are the reasons for accepting or rejecting these systems and laws? Are the reasons valid? Do subgroups of the population differ?).

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[1] An "adult mandatory safety belt usage law" is one which requires the driver and front seat passenger to wear a safety belt while the vehicle is being driven.

Answers to all these questions are needed so that the national public information and education campaign can be designed to address the public's most salient concerns. Therefore, in support of this effort, NHTSA contracted with SRA Technologies, Inc., to conduct a national survey to determine the public's current knowledge and acceptance of automatic occupant protection systems and the likely acceptance of and compliance with mandatory usage laws (MULs). This survey, described in more detail later in this section, was designed to identify awareness, knowledge and acceptance of automatic occupant protection systems by the U.S. public. Similarly, the survey sought to identify the level of the public's support for mandatory usage laws (both those in effect and those that may yet be passed) and determine how effective such laws have been (or might be) in encouraging increased use of safety belts.

In addition to the data collected in this survey, results from previously conducted surveys were also examined to determine what trends exist concerning acceptance of automatic systems and mandatory usage laws. These comparative findings are presented throughout the report.

The survey results are presented in three sections: automatic safety belts (Section Two), air bags (Section Three), and mandatory use legislation (Section Four). Section Five of this report discusses the implications of these findings for program efforts. The concluding section summarizes the conclusions of the study and presents recommendations for further research in this area.

STUDY METHODS

Sample Design

Respondent Universe. The potential respondent universe for this survey consisted of all persons age 18 and over who drive or ride in vehicles in the 48 contiguous states and the District of Columbia. A total of 1,213 respondents were interviewed in this survey between January 16 and February 20, 1986. The respondents were contacted by telephone and were selected through random digit dialing sampling frames. Within households, the respondent was selected randomly to ensure that all adult age groups were adequately represented in the survey.

Stratification Procedures. The sample was stratified on the basis of gender and geography. Gender was selected as a stratification variable because men and women were expected to differ in knowledge and attitudes about occupant protection systems, and information about these differences can help to inform the development of effective public education strategies.

Geography was selected as a stratification variable for two reasons. First, it was anticipated that there would be geographic differences in attitudes about occupant protection systems so stratification could help increase homogeneity among strata and thereby improve the precision of national estimates. Second, the use of geographic units allowed us to

compare the attitudes toward and use of occupant protection systems in states which have MULs in effect with states where such laws have not been implemented. Six strata were specified for the states where MULs were in effect and the remaining states were grouped into four strata according to Census regions (East, Midwest, South and West) as shown in Table 1-1. The number of cases selected from each stratum was proportionate to the population in the stratum.

Selection of Respondents. To maximize the response to this survey, at least three callbacks were instituted if no response was obtained during the earlier attempts. Callbacks were made at different times of the day and evening to increase the likelihood of finding a prospective respondent at home. At least one callback was made on Saturday.

Screener questions ascertained the number of household members eligible to be interviewed and one member was randomly selected as the respondent. If the selected respondent was not immediately available information was obtained regarding the optimal time for a call back. At least three additional attempts were made to reach the selected respondent.

Weighting. While the allocation within strata was designed to be self-weighting, there was some variation from expected proportions. Therefore, sample weights were utilized to insure that national estimates closely reflected the U.S. adult population as a whole. Sample weights were developed for groups defined by gender and age (18 to 35, 36 to 64, 65 and older) within each of the ten geographic strata. Weights were based on 1985 population figures from the U.S. Bureau of Census (the number of men and women by age group living within strata states). The difference between weighted and unweighted results are relatively modest (the total sample size increased by 1, so the total n = 1,214). (See Table B-1 in Appendix B.) All results cited in this report are based on weighted data unless noted otherwise.

Estimated Precision. It is estimated that the precision of national estiamtes of characteristics with a p value of .5 (e.g., 50% agreement--the most conservative case) are accurate within $\pm$ 3.0 percent.[2] The confidence intervals for national estimates with a p vale of .2 (20% or 80%) is $\pm$ 2.3 percent. The confidence intervals in states which have or do not have MULs in effect (for a p value of .5) are about + 4.0 percent.

Study Limitations

Several limitations should be mentioned at the outset before interpreting the findings from this survey.

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[2] The calculation of precision estimates was based on formulas in William G. Cochran, Sampling Techniques. New York: Wiley, 1977, pp. 75-76.

TABLE 1-1

STATUS OF MULs IN THE 48 CONTIGUOUS STATES AND THE DISTRICT OF COLUMBIA BY GEOGRAPHIC STRATA

States With MULs With Fines In Effect:
(Dates of Implementation Are Shown)

East (n = 184)	South (n = 83)	Midwest (n = 104)	West (n = 135)
New Jersey (3/1/85)	Texas (9/1/85)	Illinois (7/1/85)	California (1/1/86)
New York (11/1/85)		Michigan (7/1/85)	New Mexico (1/1/86)
Connecticut (1/1/86)			
Massachusetts (1/1/86)			

States With MULs But No Fines In Effect:
(Dates of Implementation Are Shown)

South (n = 34)	Midwest (n = 36)
North Carolina (10/11/85)	Missouri (9/18/85)
District of Columbia (1/1/86)	Nebraska (9/6/86)

States Without Mandatory Safety Belt Usage Laws In Effect:

East (N = 122)	Midwest (n = 171)
Delaware	Indiana*
Maine	Iowa
Maryland	Kansas
New Hampshire	Minnesota
Pennsylvania	North Dakota
Rhode Island	Ohio
Vermont	South Dakota
West Virginia	Wisconsin
South (n = 254)	**West (n = 90)**
Alabama	Arizona
Arkansas	Colorado
Florida	Idaho
Georgia	Montana
Kentucky	Nevada*
Louisiana*	Oregon
Mississippi	Utah
Oklahoma*	Washington
South Carolina	Wyoming
Tennessee	
Virginia	

*At the time the survey was conducted--February 1986--these states had passed but not yet implemented Mandatory Safety Belt Usage Legislation.

Reliance on Self-Reported Data. First, as with any survey, this study was based on self-reported information. Reliance on such data is the only practical approach to obtain information on attitudes and understanding. However, there is a tendency for individuals to report a somewhat higher frequency of safety belt usage than is observed in actual field studies. Reported use of safety belts is often about 10 to 15 percentage points higher than observed usage (ITSMR, 1985). There is, however, a strong ordinal correspondence between reported and observed usage (Mayas, et al., 1985); therefore, the relationships described in this survey should be fairly robust.

Lack of Knowledge. This survey investigated attitudes toward and understanding of automatic safety belts and air bags. One limitation of the survey is that many individuals were unfamiliar with automatic protection systems (e.g., 60 percent of respondents had not heard of automatic safety belts). Their responses were based on a description of the systems read to them by the interviewer. Responses could be quite different once people are familiar with automatic protection systems.

Manual vs. Automatic Safety Belts. Questions about automatic protection systems could elicit an implicit comparison with current manual systems. The original survey instrument included a parallel set of items about manual safety belts that would have permitted the survey to directly address the extent to which attitudes toward manual safety belts may have colored responses about automatic protection systems. Unfortunately, those questions were deleted from the final instrument at the request of the Office of Management and Budget (OMB).

Limited Sample Sizes. The sample size in this survey, 1,213, is large enough to yield reasonably precise estimates of national estimates (for most estimates the accuracy will be in the range of $\pm$ 3.0 percent). However, the sample sizes are not large enough to yield accurate estimates of individual states so no state-level data are reported. Comparisons between geographic groupings of states (e.g., MUL states in the West) that could identify individual states have also been excluded.

Data Collection

The Survey

Data were collected through telephone interviews which averaged about 20 minutes each during the period January 16 through February 20, 1986. Twenty interviewers were trained in two four-hour training sessions, and monitored throughout the interviewing by the use of a monitor telephone which allowed the supervisor to listen in to interviews in progress without alerting either the interviewer or the respondent that a third-party was listening.

In all, 1,213 interviews were completed with 631 males (52%) and 582 females (48%), a response rate of 75.5 percent. This response rate is comparable to that of other national telephone surveys (Groves and Kahn,

1979). (See Table B-2 in Appendix B for outcomes of all telephone contacts.)

The Questionnaire

The questionnaire (see Appendix A) was made up of five sections:

- a screening section to determine if an eligible respondent resided in the household;
- automatic safety belt section;[3]
- air bag section;
- mandatory use legislation section;
- demographic section.

The screening section was, of course, always asked first, and the demographic section last. However, the remaining sections were asked using different ordering to minimize any response bias that could have occurred due to one section always preceding (or following) other sections.

The automatic safety belt and air bag sections were made up of parallel questions to the extent possible. Two types of questions concerning knowledge and opinions were asked: those which allowed the respondents to volunteer responses and those which provided response choices, as discussed below.

So that all respondents had a common understanding of the automatic protection systems, respondents were read the following descriptions:

Automatic Safety Belts (This statement was not read to respondents who had actually ridden in a car equipped with automatic safety belts):

> The kind of automatic seat belt I'm talking about is one that when you sit down and close the door the seat belt will automatically fasten around you so you don't have to buckle it. When you open the door to get out of the car, the seat belt moves out of your way so you don't have to unbuckle it. If for any reason you need to unbuckle the seat belt while the door is closed, you can do so manually by pressing a release. However, once you have unbuckled it, to make the belt work automatically again you have to rebuckle it.

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[3] Although throughout this report the term "safety" belt is used because it is generally used by NHTSA and other transportation/safety organizations, the questionnaire used the term "seat" belt because the public is more familiar with it.

Air Bags:

> The kind of air bags I'm talking about are devices which are placed in the dashboard and steering wheel of a car. When a car is involved in a front-end collision, the air bags automatically inflate instantly to keep the driver and passengers from hitting the windshield or steering wheel. They deflate just as quickly afterward. Air bags must be replaced by a trained mechanic after they have inflated. Seat belts should be worn for maximum protection.

A question was asked about both automatic safety belts and air bags: "What do you think of as the good points and bad points about automatic seat belts/air bags?" This was an open-ended question for the respondent (i.e., no responses were read to the respondent); however, interviewers were provided with a list of responses that were anticipated to be the most common. The interviewer coded each response mentioned with the number reflecting the order in which the respondent mentioned it (i.e., the first mentioned response = 1, the second mentioned response = 2, etc.). This method identified whether good points or bad points were mentioned first (the hypothesis being that first mentioned responses were of more importance to the respondent than subsequently mentioned responses).

A set of opinion statements was asked about both automatic safety belts and air bags, with response choices of "agree strongly," "agree somewhat," "disagree somewhat," and "disagree strongly." These statements were, for the most part, selected from previously conducted surveys so that comparisons could be made of changes in knowledge of and attitudes toward occupant protection systems. Because one of the objectives of this study was to identify misconceptions and negative attitudes towards these systems so that an educational campaign could be developed that addressed these concerns, more negative than positive statements were used. To avoid response bias, interviewers alternated opening the series with a negative and positive statement.

Because direct questions about how much people would be willing to pay to have automatic systems in their cars were not permitted by OMB, two questions were used to obtain this information indirectly: whether the respondents would be willing to pay as much as the cost of an AM radio and whether they would be willing to pay as much as the cost of an AM/FM stereo radio/cassette player to have their car equipped with each of these systems. The cost of an AM radio was assumed to be about $50; the cost of the AM/FM stereo radio/cassette player was assumed to be about $300.

Two questions were asked in which respondents stated their preference for protection systems; in one they were asked to choose between manual belts and automatic belts, and the other among air bags (with manual belts), automatic belts and manual belts (this latter question was asked in the context of renting a car and therefore implied no additional cost).

To assess the public's use (or lack thereof) of automatic belts, two questions were asked concerning the likelihood of subverting the automatic belts, either by unbuckling them or permanently disconnecting them.

Two questions were asked concerning use of a seat belt in an air bag-equipped car: first, whether they knew a seat belt should be worn and second, how likey they would be to wear one. The first question was asked before the decription of the air bag system was read to the respondent, and the second one after the respondent had been informed that a seat belt should be worn.

Finally, respondents were asked what information would most help them decide whether to have the automatic system in their next car. This was an open-ended question, with pre-coded responses provided only to the interviewer.

The section concerning mandatory use laws asked first whether respondents were aware if their state had a MUL, and if so whether the MUL applied to children, adults or both. Respondents replying that their state had an adult MUL were asked whether they favored or opposed the law and why, and how strictly they believed the law was being enforced. Respondents who said their state did not have an adult MUL were asked similar questions, only rephrased to reflect that such a law was not currently in effect.

The demographic section asked standard survey questions concerning age, education, marital status, and whether they had teenage children or children age five or younger. Several questions were asked concerning driving behavior: frequency of being a driver and a passenger, whether most car trips were short or long trips, and the frequency of use of safety belts on short and long trips.

Analysis

Analyses of the data were conducted for the total population (after weighting the sample as discussed previously) and for the following population subgroups (weighted subgroup sample sizes are shown in parentheses):

Demographic Subgroups:

- Gender: Male (587) and female (627).
- Age: Age 18-29 (327), age 30-39 (308), age 40-59 (302), and age 60 and over (272), and unknown (5).
- Education: Non-high school graduate (166), high school graduate (460), some college (286), and college graduate (300), and unknown (2).

Safety Belt Usage: Wear seat belts almost always (Almost Always users) (520), wear seat belts most of the time or almost always on long trips but not short trips (Long-trip users) (373), wear seat belts sometimes, rarely or never (Rarely users) (314), and unknown (7).

MUL Status: States where Mandatory Usage Laws (MULs) were in effect (579), and states where MULs were not in effect (634).

Exposure to Automatic Safety Belts: Had ridden in a car equipped with automatic seat belts (Rode) (144), had heard of automatic seat belts but not ridden in a car equipped with them (Heard) (310), had never heard of automatic seat belts (Not Heard) (738), and unknown (22).

Intent to Purchase a New Car in the Next Five Years: Intended to purchase a new car in the next five years (New Car Buyers) (771), did not intend to purchase a new car in the next five years (Non-Buyers) (404).

Preference for Occupant Protection Systems: Two classifications were made:

- Prefer either automatic belts (360) or manual belts (610). (Seventy respondents did not express a preference).

- Prefer air bags (with manual belts) (606), automatic seat belts (158), or manual belts only (449). (This preference was in response to a question asking which system they would prefer in a rental car, thereby ignoring the issue of initial purchase cost or, in the case of air bags, later replacement cost). (Ten respondents did not express a preference.)

Other Subgroups: Other demographic variables were examined such as presence of young children or teenagers, type of vehicle driven, type of geographic area of residence, etc. (See last section of questionnaire in Appendix A for all such variables included in the questionnaire). However, since these variables had little effect on this study's findings, they are, for the most part, not discussed in this report.

Comparisons were made within these subgroups on the issues addressed in the questionnaire: awareness and knowledge of the systems, preference for automatic versus manual systems, likelihood of purchasing and, in the case of automatic belts, using the system. Those subgroups holding different opinions and with different knowledge levels were identified. Additionally, these same subgroups were analyzed contrasting differences in states with MULs in effect and those with no MUL in effect. Multivariate analyses were conducted to attempt to identify profiles of individuals with preferences for automatic systems and those likely to subvert automatic belts. This was done using stepwise multiple regression employing dummy variables to permit inclusion of nominal variables such as MUL status. These analyses were conducted in two stages; first the algorithm was allowed to step in the individual demographic or usage characteristics that added significant additional variance (using an F-test with a criteria of $p < .05$) to the prediction of acceptance of a particular automatic system. Having identified the background characteristics of individuals most likely to accept or reject an automatic system, the algorithm was allowed to step

in the opinion items that added further significant variance to the prediction of acceptance (using a F-test with a $p < .05$ as a criterion for inclusion).

In addition, analyses were conducted of the relationship between opinions about automatic safety belts and the likelihood of unbuckling or permanently disconnecting automatic belts, and the relationship between opinions about air bags and willingness to pay for air bags.

Information requested by the public about the occupant protection systems and information the public needs were identified in the analysis.

Data concerning mandatory use laws was analyzed to determine the amount of support for MULs, the reasons for support for or opposition to MULs, and compliance with MULs.

SECTION TWO

PUBLIC UNDERSTANDING AND ACCEPTANCE OF AUTOMATIC SAFETY BELTS

OVERVIEW

The U.S. public is generally unaware of automatic safety belts and those who have heard of automatic belts are generally uninformed about how the system works. Respondents agreed that automatic belts provide protection, but had concerns about them malfunctioning or trapping people in the car in an accident. Respondents who had ridden in cars with automatic belts held more favorable opinions about them then those who were less familiar with the automatic system. The majority preferred manual seat belts to automatic safety belts and indicated they were not willing to pay as much as the cost of an AM radio (approximately $50) to have automatic belts in their next car. There was less acceptance by the group most in need of automatic belts--the Rarely users--who were less likely to buy a car equipped with automatic belts, less willing to pay the cost of them, and more likely to unbuckle them. Furthermore, 40 percent of respondents reported they would be likely to unbuckle and 20 percent permanently disconnect automatic belts if their car were equipped with them. The presence of a mandatory use law had little effect on preference for automatic belts; however, their presence slightly reduced the respondents' likelihood of unbuckling automatic belts, but not permanently disconnecting them.

IS THE U.S. PUBLIC AWARE OF AUTOMATIC SAFETY BELTS?

U.S. Population

In general, the U.S. public is unaware of automatic safety belts: 60 percent of respondents said they had not heard of automatic seat belts; 26 percent said they had heard of them and 12 percent reported that they had ridden in cars equipped with them. Two percent had heard of them but did not know if they had ridden in a car equipped with them. See Table 2-1.

Population Subgroup Findings

- Demographic Subgroups. Males, younger respondents, and those with more education were more aware of automatic belts than their counterparts and more of them had ridden in cars equipped with automatic belts.

- Safety Belt Usage. Seventeen percent of respondents who report wearing safety belts almost all the time had ridden in a car equipped with automatic safety belts, while 9 percent of less frequent users had experienced them. More (68%) Rarely users than Almost Always users (56%) had not heard of automatic safety belts.

TABLE 2-1

AWARENESS OF AUTOMATIC SAFETY BELTS
(BY U.S. POPULATION AND SELECTED SUBGROUPS)

		GENDER		AGE				EDUCATION				CURRENT SAFETY BELT USE		
N	U.S. POPULATION (1214) %	Male (622) %	Female (567) %	18-29 (310) %	30-39 (298) %	40-59 (302) %	60+ (264) %	HS (166) %	HS Grad (445) %	Some College (280) %	College (295) %	Almost Always (508) %	Long-Trip (364) %	Rarely (313) %
Not Heard	60%	53%	70%	58%	56%	65%	65%	76%	67%	59%	48%	68%	63%	56%
Heard Only	26%	32%	21%	26%	28%	24%	30%	19%	25%	27%	32%	24%	28%	27%
Rode	12%	16%	9%	16%	16%	11%	6%	5%	8%	15%	20%	8%	9%	17%

NOTE: 2% cases with no information on whether they had only heard of or had ridden in a car equipped with automatic belts were excluded from analysis.

Comparative Findings

There is limited information about the public's understanding and acceptance of automatic safety belts. The last survey of automatic belts was over eight years ago. That 1978 national survey found that only 15 percent of adults had heard about automatic safety belts (Hart, 1978), compared to 40 percent in the current 1986 survey who had either heard about them or ridden in a car with automatic belts.

WHAT IS KNOWN ABOUT AUTOMATIC SAFETY BELTS?

Respondents who had heard of automatic belts were asked, "What have you heard about automatic safety belts?" They said the following (Table 2-2):

- that the belts automatically buckle upon shutting the door;
- that the belts attached to door ceiling rack;
- they operate with an interlock system or prevent startup unless fastened[1]; and
- additional information about automatic belts was given by less than 4 percent.

The public's lack of awareness of the existence of automatic belts must be kept in mind in interpreting the findings presented in this section. Most respondents were answering questions based only on the brief description of automatic belts read to them by the interviewer.

WHAT ARE THE U.S. PUBLIC'S PERCEPTIONS OF AUTOMATIC SAFETY BELTS?

Overview

Perceptions about automatic safety belts were assessed through two methods: (1) asking respondents what they considered to be the good and bad points of automatic safety belts and (2) asking respondents how much they agreed or disagreed with a series of positive and negative statements about automatic safety belts. The good/bad points were asked about first so that responses would not be influenced by the issues raised in the agree-disagree statements. The two approaches resulted in substantial differences, for which several hypotheses are presented.

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[1] To be in conformance with FMVSS 208, automatic safety belts are not required to have this feature.

TABLE 2-2

INFORMATION HEARD ABOUT AUTOMATIC SAFETY BELTS

AUTOMATIC SAFETY BELTS: WHAT HAVE YOU HEARD ABOUT HOW THEY WORK? (Asked of 310 Respondents Who Had Heard of But Had Not Ridden in Cars With Automatic Safety Belts)	
RESPONSE GIVEN	**PERCENT** (Heard Only) (n = 310)
Automatically Buckle When Shut Door	41%
Attached to Door/Ceiling Track	7
Unbuckle If Want/Need To	2
Protects Two Front Passengers Only	1
Interlock/Cannot Start Unless Fastened	7
Cannot Disconnect Manually	> 1

What Does the Public See as the Good and Bad Points of Automatic Safety Belts?

U.S. Population

Table 2-3 shows, for the most frequently mentioned good and bad points, the percentage who mentioned the item[2] as their first choice and the total percentage of respondents who ever mentioned the item. These findings are summarized below.

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[2] Pre-coded categories of the items were given to the interviewers, who coded the free responses into these categories. Responses not fitting into a pre-coded category were initially coded "other" and, when the frequency of a response justified it, a new coding category was created.

TABLE 2-3

GOOD AND BAD POINTS MENTIONED ABOUT AUTOMATIC SAFETY BELTS
(FOR TOTAL U.S. POPULATION AND SAFETY BELT USAGE AND EXPOSURE TO AUTOMATIC SAFETY BELTS SUBGROUPS)

GOOD/BAD POINTS MENTIONED ABOUT AUTOMATIC SAFETY BELTS	TOTAL U.S. (1214)		CURRENT SAFETY BELT USAGE[1]				EXPOSURE TO AUTOMATIC BELTS[1]			
	Mentioned First %	Ever %	Almost Always (520)	Long-Trip (373)	Rarely (314)	p[2]	Not Heard (738)	Heard (310)	Rode (144)	p[2]
Direction First Response:										
Good Point	49%		53%	50%	41%		44%	56%	55%	
Bad Point	42		40	41	48		47	32	41	
No Response	9		8	10	10	*	9	12	4	*
Good Points Mentioned:										
Easier to use than manual	7	11	11	11	9		8	11	23	*
Don't have to remember to fasten	31	46	50	47	38	*	46	48	41	
Protection from injury	3	8	6	10	7		7	9	7	
Enforces safety	2	2	2	3	2		2	4	0	*
Other Positive	6	10								
Bad Points Mentioned:										
Might not work/malfunction	9	17	18	15	19		20	16	4	*
Might get trapped in accident	6	13	10	15	17	*	16	13	3	*
Uncomfortable/not adjustable	7	13	14	13	12		11	12	27	*
Don't want to be forced to use/Want to decide	6	10	8	11	14	*	11	12	5	
Would probably cost more	3	7	6	9	7		8	7	4	
Manual easier/Safer	2	5	7	3	2	*	6	3	3	
Getting in and out would be inconvenient	3	7	9	7	4	*	6	7	12	*
Don't like seatbelts	2	4	1	2	12	*	5	4	3	
Other Negative	5	9								

[1] Percentages are Ever Mentioned.

[2] Asterisk (*) indicates differences are statistically significant at the .05 level or better.

- In their first responses to the question, "What do you think of as the good or bad points about automatic seat belts?," 49 percent mentioned good points, 42 percent bad points, and 9 percent did not respond.

- The findings suggest that in mentioning good/bad points, the respondents were comparing automatic seat belts to their experience with manual belts. The most frequent response was, "Don't have to remember to fasten" (31% first mention, 46% all mentions); the second most frequent response was, "Easier to use than manual" (7% first and 11% all mentions). "Protection from injury" and "enforces safety," respectively, were given less frequently (3% and 2% first and 8% and 2%, all mentions, respectively).

- Bad points were mentioned less frequently than good points. The most frequent bad point given was "might not work properly/malfunction" (9% first, 17%, all mentions). Next most frequently mentioned was "uncomfortable/not as adjustable as manual" (7% first, 13% all mentions), after which came, "might get trapped in a car accident" (6% first and 13% all mentions) and "don't want to be forced to use/want to decide when to buckle up" (6% first and 10% all mentions). The remaining negative responses were given less frequently: probably cost more, make getting in and out inconvenient, manual belts are easier/safer, and general dislike of safety belts.

Population Subgroup Findings

Demographic Subgroups. Younger respondents and those with more education mentioned good points more often than did older and less educated respondents. Perhaps because they are generally more articulate, the more educated groups provided a greater proportion of negative opinions as well as positive. The group with the least education had the highest rate of nonresponse (17%). (See Table B-3 in Appendix B.)

Safety Belt Usage. As shown in Table 2-3, respondents who report more frequent usage of belts mentioned good points more so than respondents with less frequent use. Rarely users, in their first response, mentioned more bad points than good points, in particular getting trapped in an accident and not being forced to use belts.

Exposure to Automatic Belts. The most relevant background variable was previous exposure to automatic belts. (See Table 2-3.) Respondents who were more familiar with automatic belts--especially those who had ridden in a car equipped with automatic belts--mentioned more good points than those with less exposure and fewer bad points. Only 3 to 4 percent of the Rode group mentioned malfunctioning or "being trapped" as a bad point. However, the Rode group (more than the two other groups) mentioned that the belts were uncomfortable or not adjustable and that getting in and out was inconvenient. Inasmuch as this group had actually experienced automatic

belts, this indicates that the design of automatic belts may be found wanting in these areas.

Comparative Findings

Over the past eight years there appears to have been some decrease in concern about automatic safety belts trapping occupants in a car in case of an accident. The Hart (1978) national survey found that 23 percent of respondents mentioned the possibility that people might get trapped by automatic belts in an accident as one of the disadvantages of automatic belts. In this 1986 national survey, however, only 13 percent of respondents mentioned the possibility that people might get trapped in an accident as one of the bad points about automatic belts. (However, as reported in later in this section, when respondents were read a statement about automatic belts trapping people in the car, there was substantial agreement indicating that this may still be a concern.)

What are the Public's Opinions About Automatic Safety Belts?

U.S. Population

Respondents were told that they would be read some opinions that other people have about automatic safety belts and were asked to indicate whether they "agreed strongly," "agreed somewhat," "disagreed strongly," or "disagreed somewhat" with each. The findings for the seven opinion statements (which included three positive and four negative statements), are shown in Table 2-4. The results are summarized below:

Two positive statements produced the greatest level of agreement:

- 94 percent of respondents agreed with the statement, "I would feel better knowing that my family would always have some protection in an accident." (78 percent agreed strongly); and,

- 93 percent agreed, "A good thing about automatic belts is that people don't have to remember to buckle them." (74% agreed strongly).

The remaining positive statement resulted in somewhat smaller, although still substantial agreement, namely:

- 81 percent agreed, "Automatic seat belts would greatly reduce the chances of being injured in a car accident." (52% agreed strongly).

Two negative statements about automatic seat belts elicited a high level of agreement (about two-thirds of the population):

- 71 percent agreed that, "Automatic seat belts are probably more complicated so they are more likely to break down." (34% agreed strongly); and

TABLE 2-4

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AUTOMATIC SAFETY BELTS
(FOR SAFETY BELT USAGE AND EXPOSURE TO AUTOMATIC BELTS)

OPINIONS ABOUT AUTOMATIC SAFETY BELTS	TOTAL U.S.	CURRENT SAFETY BELT USAGE				EXPOSURE TO AUTOMATIC BELTS			
		Almost Always	Long Trip	Rarely	p[1]	Not Heard	Heard	Rode	p[1]
	n=1,214	n=520	n=373	n=314		n=738	n=310	n=144	
Greatly Reduce Chances of Injury:									
Agree Strongly	52	59	55	40		49	55	60	
Agree Somewhat	29	24	30	36	*	30	30	24	*
Disagree Somewhat	12	9	11	16		14	9	8	
Disagree Strongly	7	8	4	8		7	6	8	
Family Protection:									
Agree Strongly	78	84	79	68		77	78	83	
Agree Somewhat	16	11	18	22	*	16	18	14	
Disagree Somewhat	4	3	3	6		5	3	2	
Disagree Strongly	2	2	< 1	3		2	1	1	
Don't Have to Remember to Buckle:									
Agree Strongly	74	75	79	65		74	74	74	
Agree Somewhat	19	19	17	23	*	19	19	22	
Disagree Somewhat	4	3	3	5		4	3	4	
Disagree Strongly	3	3	1	6		3	4	3	
Trap in Accident:									
Agree Strongly	33	22	34	47		37	26	23	
Agree Somewhat	33	32	34	33	*	34	36	23	*
Disagree Somewhat	17	20	20	10		16	22	20	
Disagree Strongly	17	26	12	8		13	16	34	

[1]Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE 2-4 (Continued)

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AUTOMATIC SAFETY BELTS
(FOR SAFETY BELT USAGE AND EXPOSURE TO AUTOMATIC BELTS)

OPINIONS ABOUT AUTOMATIC SAFETY BELTS	TOTAL U.S.	CURRENT SAFETY BELT USAGE				EXPOSURE TO AUTOMATIC BELTS			
		Almost Always	Long Trip	Rarely	p	Not Heard	Heard	Rode	p
	n=1,214	n=520	n=373	n=314		n=738	n=310	n=144	
Complicated/Malfunction/ Breakdown:									
Agree Strongly	34	29	35	42		41	25	20	
Agree Somewhat	37	34	38	40	*	37	39	32	*
Disagree Somewhat	17	20	16	12		14	22	21	
Disagree Strongly	12	17	11	6		8	14	27	
Uncomfortable:									
Agree Strongly	19	14	17	30		21	15	20	
Agree Somewhat	25	20	27	31	*	27	22	21	*
Disagree Somewhat	30	33	33	23		30	34	24	
Disagree Strongly	26	33	23	16		22	29	35	
Harder to Get In and Out:									
Agree Strongly	18	14	15	27		19	15	19	
Agree Somewhat	23	19	27	25	*	24	25	19	
Disagree Somewhat	32	33	33	28		33	31	27	
Disagree Strongly	27	34	25	20		24	29	35	
Nuisance for Short Trips:									
Agree Strongly	21	9	23	38		25	15	15	
Agree Somewhat	17	10	19	25	*	17	19	11	*
Disagree Somewhat	20	19	24	18		19	24	18	
Disagree Strongly	42	62	35	19		39	42	56	

[1]Asterisk (*) indicates differences are statistically significant at the .05 level or better.

- 66 percent agreed, "In an accident, automatic seat belts might trap people in the car." (33% agreed strongly).

- About 40 percent of the respondents agreed with the remaining three negative statements:

  - 44 percent agreed, "Automatic seat belts would be uncomfortable." (19% agreed strongly);

  - 41 percent agreed, "Automatic seat belts would make it hard to get in and out of the car." (18% agreed strongly); and

  - 38 percent agreed, "It would be a nuisance to have to be belted in ... when going for just a short ride." (21% agreed strongly).

Population Subgroup Findings

Demographic Subgroups. Younger and more educated respondents had more positive attitudes toward automatic belts than older and less educated respondents (there were no differences between males and females). Respondents who intend to purchase a new car in the next five years tended to be younger and better educated than non-Buyers, so, as expected, New Car Buyers had more favorable attitudes than did non-Buyers. Respondents with the most exposure to automatic belts were more positive in their attitudes than those who had never heard of automatic belts. (See Table B-4 in Appendix B.)

Safety Belt Usage. The largest differences in attitudes were found in respondents with different reported current use of safety belts. (See Table 2-4.) Almost Always users had the most favorable attitudes and Rarely users the least, with Long Trip users falling in between (but more more similar to the Almost Always users). Almost Always and especially Long-Trip users agreed more strongly than Rarely users that not having to remember to buckle was a good point of automatic belts, suggesting that Long-Trip users might be more likely to wear seat belts if they didn't have to remember to do so.

Exposure to Automatic Safety Belts. Respondents who had ridden in cars equipped with automatic safety belts had the most favorable opinions about them, followed by those who had heard of them. Respondents who had not heard of them--and were expressing opinions based on the description read to them during the interview--had the least favorable opinions. These differences were particularly pronounced concerning the system malfunctioning or trapping people in the car, as well as automatic belts being a nuisance on short trips.

Comparative Findings

It appears that concerns about entrapment are higher for automatic belts than for manual safety belts. In December 1985, a national survey

conducted for Traffic Safety Now found that only 41 percent of adults 18 and older agreed with the statement, "Manual safety belts often result in people being trapped in cars when they have an accident" (Nordhaus, 1986). In contrast, 66 percent of adults in this 1986 national survey agreed that, "In an accident, automatic seat belts might trap people in the car."

Comparison of Volunteered Good/Bad Points and Agreement with Opinion Statements

Table 2-5 shows for comparable positive and negative statements about automatic belts (a) the extent to which the statement was volunteered in response to the open-ended question about the good and bad points of automatic belts; and, (b) the extent to which respondents were in agreement with the statement when it was read to them. The table shows for the good/bad point responses both the percentage which mentioned the item as a first response (First) and the percentage who ever mentioned it (Ever). For the agree/disagree statements, it shows the the percentages who indicated that they agreed strongly as well as percentages combining agreed strongly and agreed somewhat (Overall Agree).

Not surprisingly, there were fewer items mentioned in response to the question asking respondents to volunteer these items than when a statement was read to respondents and they were asked how much they agreed or disagreed with it. As noted above, better educated respondents mentioned more of both good and bad points than did the lesser educated, indicating that this question to some extent was measuring how articulate the respondent was. However, while percentages are smaller for the volunteered responses, the relative frequency for the items was fairly consistent.

Positive Opinions

- In both questions, not having to remember to buckle produced the greatest combined level of support with 46 percent mentioning it as a good point and 93 percent agreeing with the statement, "A good thing about automatic belts is that people don't have to remember to buckle them."

- Substantial differences were found in responses concerning family protection and reducing the chance of injury in an accident:

  - Less than 2 percent mentioned family protection and only 8 percent mentioned reducing the chances of injury as good points.

  - In the agree/disagree format, 94 percent and 81 percent, respectively, agreed that these two issues were positive features of automatic belts.

One likely explanation for this apparent discrepancy is that in responding to the good/bad point question, the respondents were contrasting automatic seat belts to manual. Therefore, since family protection and reduction of injury were likely to be perceived benefits of both manual and

TABLE 2-5

COMPARISON OF GOOD AND BAD POINTS MENTIONED AND AGREEMENT WITH OPINION STATEMENTS ABOUT AUTOMATIC BELTS (FOR U.S. POPULATION)

OPINIONS ABOUT AUTOMATIC BELTS	VOLUNTEERED GOOD/BAD POINTS		OPINION STATEMENTS	
	Percent Mentioned		Percent Agree	
Positive Opinions:	First	Ever	Strongly	Overall[1]
Family Protection	> 2%	> 2%[2]	78%	94%
Don't Have to Remember to Buckle	31%	46%	74%	93%
Reduce Injury	3%	8%	52%	81%
Negative Opinions:				
Complicated/Break Down or Malfunction	9%	17%	34%	71%
Trapped in Accident	6%	13%	33%	66%
Uncomfortable/Not Adjustable	7%	13%	19%	44%
Harder to Get In and Out of Car	3%	7%	18%	41%
Short Ride Nuisance	> 2%	> 2%	21%	38%

[1] Includes 'agree strongly' and 'agree somewhat' responses.

[2] Percent given represents an upper limit as data may be included under 'other'.

automatic belts, they were infrequently mentioned as good points of automatic belts. On the other hand, when respondents were directly asked about these advantages with respect to automatic belts in the agree/disagree questions, they indicated that they were in substantial agreement.

Negative Opinions

- The item which produced the most substantial overall agreement or support under both formats was "more complicated...likely to break down" (17% mentioned, 71% agreement).

- The next-most agreement was to "might trap people in car," mentioned by 13 percent and agreed to by 66 percent.

WHAT IS THE PUBLIC'S PREFERENCE FOR AND ACCEPTANCE OF AUTOMATIC SAFET BELTS?

In this section, four questions are addressed concerning the public's preference for and acceptance of automatic safety belts:

- Does the public prefer manual or automatic belts? Will the public purchase cars with automatic belts? Will they use the automatic belts?

- What are the opinions of people who prefer automatic seat belts to manual belts?

- Who are the people likely to reject automatic belts?

- What are the opinions of people likley to subvert automatic belts?

These questions are answered for the U.S. population as a whole and for the various population subgroups when significant differences were identified.

Does the Public Prefer Automatic Belts and Will the U.S. Public Purchase and Use Automatic Belts?

Overview

In general, respondents reported preferring manual belts to automatic seat belts (both in purchasing and renting a car), although about half the respondents said it wouldn't make a difference in buying a new car. (See Table 2-6.) However, the majority would not be willing to pay as much as the cost of an AM radio for automatic belts. Over half of the respondents indicated that they would not be likely to unbuckle an automatic belt and over three-quarters indicated that they would not permanently disconnect automatic belts. There was more acceptance for automatic belts among females, among respondents under age 60, among those with higher education, and those with more exposure to them. There was less acceptance by the

TABLE 2-6

PREFERENCE FOR AND LIKELIHOOD OF PURCHASE AND USE OF AUTOMATIC SAFETY BELTS
(For U.S. Population and Safety Belt Usage and Exposure Subgroups)

PREFERENCE FOR AND LIKELIHOOD OF PURCHASE AND USE: AUTOMATIC BELTS	TOTAL U.S. (1214)	CURRENT SAFETY BELT USAGE				EXPOSURE TO AUTOMATIC BELTS			
		Almost Always (520)	Long-Trip (373)	Rarely (314)	p*	Not Heard (738)	Heard (310)	Rode (144)	p*
Prefer: Automatic Belts	33%	32%	37%	30%		32%	34%	37%	
Manual Belts	60	60	58	62		60	59	58	
Not Sure	7	8	5	8		8	7	5	
Likelihood of Purchasing:					*				*
More Likely	19	20	21	12		17	20	18	
No Difference	48	51	49	42		45	52	56	
Less Likely	29	24	27	42		33	24	23	
Depends on Cost	4	5	3	4		5	4	3	
Willing to Pay as Much as Cost of AM Radio:					*				*
No	54	51	49	68		56	54	48	
Yes	46	49	51	32		44	46	52	
Likelihood of Unbuckling:[2]					*				*
Not at All Likely	59	81	51	30		56	58	74	
Somewhat Likely	24	11	34	33		26	25	12	
Very Likely	15	6	14	34		16	14	14	
Likelihood of Permanent Disconnect:[2]					*				
Not at All Likely	79	90	78	64		78	81	82	
Somewhat Likely	9	5	11	14		9	10	7	
Very Likely	10	4	8	20		10	8	11	

[1]Asterisk (*) indicates differences are statistically significant at less than the .05 level.

[2]Does not include "Not Sure" responses.

group most in need of automatic belts--the Rarely users--who were less likely to buy a car equipped with automatic belts, less willing to pay the cost of them, and more likely to unbuckle them.

U.S. Population

- 60 percent of U.S. adults preferred manual belts to automatic seat belts; a third preferred automatic belts, and the remainder (7%) were not sure which they preferred.

- About half (48%) of respondents indicated that it wouldn't make any difference if the car they were buying came equipped with automatic belts; however, about 30 percent said they would be less likely to buy it compared to only 19 percent who said they would be more likely to buy it. Although the question itself did not mention cost, about 5 percent of respondents said their preference for manual or automatic belts would depend on cost.

- Over half (54%) of the respondents stated they would not be willing to pay as much as the cost of an AM radio for automatic belts.

- Although the majority of respondents (59%) said it was not at all likely that they would unbuckle an automatic belt, a sizeable minority (39%) said it was either very likely (15%) or somewhat likely (24%) that they would unbuckle it.

- A larger majority (79%) said it was not at all likely that they would permanently disconnect an automatic belt; 19 percent said it was either somewhat likely (9%) of very likely (10%) that they would permanently disconnect the belts.

Population Subgroups

- Demographic Subgroups. While there were some statistically significant differences within gender, age, and education subgroups, these differences were not substantial. Females, younger people, and better educated people were more likely to purchase and use automatic seat belts.

- Safety Belt Usage. About 60 percent of all three user groups preferred manual belts to automatic belts. Differences in acceptance of automatic belts among these groups were:

  - About a quarter of the Almost Always users (24%) and Long-trip users (27%) said they would be less likely to purchase a car if it were equipped with automatic seat belts compared to 42 percent of Rarely users.

- About half of the Almost Always users and Long-trip users were willing to pay as much as the cost of an AM radio for automatic seat belts compared to only a third of the Rarely users.

- While only 6 percent of the Almost Always users and 14 percent of the Long-trip users said it was very likely they would unbuckle automatic safety belts, 34 percent of Rarely users said it as very likely. An additional third of the Rarely users said it was somewhat likely they would unbuckle the belts, compared to only 11 percent of the Almost Always users.

- Similarly, while only 4 percent of the Almost Always users and 8 percent of the Long-trip users said it was very likely they would permanently disconnect the belts, 20 percent of the Rarely users stated they would. However, the majority of all three groups said it was not at all likely that they would permanently disconnect them, ranging from 90 percent of the Almost Always users to 64 percent of the Rarely users.

- Exposure to Automatic Safety Belts. About 60 percent of all exposure groups preferred manual belts to automatic safety belts. Differences in acceptance of automatic belts were:

  - A third of the Not Heard respondents said they would be less likely to purchase a car equipped with automatic belts compared to less than a quarter of the other two groups.

  - Only 26 percent of the Rode group said it was either very likely or somewhat likely that they would unbuckle an automatic seat belt, while about 40 pecent of the other two groups indicated that they would unbuckle. However, there were no differences in the likelihood of permanently disconnecting automatic belts--about 80 percent of all groups said it was very unlikely that they would do so.

- Intent to Purchase a New Car in the Next Five Years. New Car Buyers expressed more of a preference for automatic safety belts than did non-Buyers (36% vs. 30%), but they were no more willing to pay the extra cost for them than non-Buyers. They also reported more frequently than non-Buyers that they were not at all likely to either unbuckle an automatic belt (18% vs. 14%) or permanently disconnect it (12% vs. 8%).

- MUL in Effect and MUL Not in Effect States. There was little difference between respondents living in MUL in Effect states and those living in MUL Not in Effect states in their preference for or willingness to buy cars equipped with automatic belts. However, somewhat more respondents in MUL in Effect states said they were not at all likely to unbuckle an automatic belt (63%) than those in

MUL not in Effect states (55%). There were no differences in the likelihood of permanently disconnecting automatic belts.

Comparative Findings

The importance of comfort and convenience in the acceptance of automatic safety belts has been found in earlier surveys of owners of cars equipped with automatic belts. Approximately 5 percent of Toyota and Volkswagon Rabbit owners were observed to have removed automatic safety belts from their cars, compared to 22 percent of Chevette owners. Among the reasons for this may be the fact that 66 percent of Chevette owners said that the automatic safety belts interfered with getting into or out of the car (compared to only 25% of Toyota and 37% of Rabbit owners). Also, 40 percent of Chevette owners complained that the automatic safety belts rested or rubbed on their face or neck compared to 25 percent of Rabbit and Toyota owners (NHTSA, 1984). Hence, the comfort and convenience of automatic safety belts seem to be important factors in their acceptance.

The proportion of adults who indicated that they would be likely to subvert automatic belts may be declining. However, comparisons with the current national survey are difficult because the planned automatic belts can be disconnected manually and the systems are not interlocked with the ignition. This disconnect feature was not available at the time the earlier surveys were conducted.

- In 1978, 54 percent of adults reported that they would be likely to disconnect automatic belts (Hart, 1978).

- In the current 1986 survey, 39 percent of respondents said they would be likely to unbuckle automatic belts and 18 percent said that they or someone in their family would be likely to permanently disconnect automatic belts. It is interesting to note that the proportion of respondents currently reporting that they would be likely to unbuckle automatic belts is lower than was reported in 1978, even though the current study described a belt that could be manually disconnected, and so would be easier to subvert. One possible explanation for this difference is that the earlier systems were interlocked with the ignition, a feature that is not the case with the proposed automatic safety belts.

What Are the Opinions of People Who Prefer Automatic to Manual Belts?

As expected, respondents preferring automatic over manual belts had significantly stronger favorable opinions about automatic belts than did respondents preferring manual belts. Table 2-7 shows the percentages of these two groups agreeing with opinion statements about automatic safety belts when responses were significantly different. (The group of respondents who were not sure which system they preferred had scores intermediate between these two groups.) There were major differences between the two groups in their responses to statements concerning convenience and comfort.

TABLE 2-7

PERCENT AGREEING WITH OPINION STATEMENTS ABOUT AUTOMATIC BELTS BY PREFERENCE FOR AUTOMATIC VS. MANUAL BELTS

CATEGORY	PERCENT AGREEING WITH STATEMENT	
	Prefer Automatic	Prefer Manual
Convenience/Comfort		
Automatic seat belts would be uncomfortable	21%	56%
Automatic belts would make it hard to get in and out of the car	17%	56%
It would be a nuisance to have to be belted in by an automatic belt when going for just a short ride	18%	49%
Protection		
Automatic seat belts would greatly reduce the chances of being injured in a car accident	94%	74%
I would feel better knowing that my family would always have some protection in an accident	99%	91%
Malfunction/Entrapment		
Automatic seat belts are probably more complicated so they are more likely to break down	54%	80%
In an accident, automatic seat belts might trap people in the car	50%	75%

While only about 20% or less of the respondents who preferred automatic belts agreed with the three statements describing possible inconveniences (hard to get in and out of car; a nuisance on short rides) and comfort, about 50% or more of respondents who preferred manual belts agreed with these statements. The other major difference in these two groups was in their belief that automatic belts might trap them in a car in an accident and that automatic belts were more likely to malfunction. While a significantly larger majority of respondents preferring manual belts agreed that automatic seat belts might trap people in the car or malfunction, it should be noted that half of the respondents preferring automatic seat belts also held these beliefs. The majority of both groups agreed with statements concerning the protection afforded by automatic belts, although respondents choosing automatic belts over manual belts expressed more positive opinions about protection for their family and users in general.

Who Are the People Likely to Prefer Automatic Safety Belts?

The pattern of opinions that characterized preference for automatic belts was similar among all demographic subgroups. As shown in Table 2-8, multivariate analysis[3] found that preference for automatic belts was higher

TABLE 2-8

ATTITUDINAL PREDICTORS OF PREFERENCE FOR AUTOMATIC BELTS

Variable	Beta	F
Reduce Injury	.155	17.9
No Remembering	.164	4.5
Hard to Get In & Out	- .194	36.5
Uncomfortable	- .170	7.2
Nuisance	- .072	4.9
Complicated	- .159	5.3
Might Trap	- .070	5.1
n = 918		
Adjusted R_2 = 39.8%		

[3] A scale of preference for automatic safety belts was constructed by combining items expressing (1) preference for automatic over manual belts, (2) preference for renting a car equipped with automatic belts, (3) increased likelihood of purchasing a car that came with automatic belts, and (4) willingness to pay for automatic belts. Stepwise multiple regression was used to determine which opinions predicted preference for automatic safety belts.

among individuals who agreed that automatic belts: would reduce injury, and did not require having to remembering to buckle and unbuckle.

Preference for automatic belts was lower among individuals who believed that automatic belts: would make it hard to get in and out of the car, were uncomfortable, were a nuisance to wear on short trips, were complicated so they might malfunction, and might trap people in an accident.

This pattern of opinions is similar to the opinions that characterize likelihood of subverting automatic belts (as discussed in the section that follows). The main difference is that the opinion that automatic belts make it hard to get in and out of the car was the strongest predictor of preference for automatic belts, while it was unrelated to likelihood of subverting automatic belts. This suggests that information concerning the ease of entry may be an important selling point in promoting the purchase of cars with automatic belts, but may not be a factor in promoting their use.

What Are the Opinions of People Who Are Likely and Unlikely to Unbuckle Automatic Belts?

Comparisons of respondents who said they were very likely to unbuckle an automatic belt with those who said they were not at all likely to unbuckle were similar to the comparisons presented above. Respondents who were not at all likely to unbuckle expressed consistently more favorable opinions towards automatic belts than did those saying it was very likely (respondents saying it was somewhat likely had scores intermediate to these two extreme groups). These differences were particularly pronounced in attitudes about comfort, convenience, malfunction and entrapment, and protection. (See Table 2-9.)

While signficantly more respondents who were very likely to unbuckle automatic seat belts reported more concern about malfunction and entrapment, it is noteworthy that slightly over half of the respondents who were not at all likely to unbuckle automatic belts also expressed concern about these two issues.

Who Are the People Likely to Reject Automatic Safety Belts?

Profile of Individuals Likely to Subvert Automatic Safety Belts

Multivariate analysis was conducted to identify the profile of individuals likely to subvert automatic belts. This was done using stepwise multiple regression with variables for nominal characteristics (e.g., residence in a MUL state) to determine which combination of demographic and background characteristics best predicted the likelihood of subverting automatic safety belts. A scale for the likelihood of subverting automatic belts was constructed by combining the items on the likelihood of unbuckling and permanently disabling automatic safety belts.

TABLE 2-9

PERCENT AGREEING WITH OPINION STATEMENTS ABOUT AUTOMATIC BELTS BY LIKELIHOOD OF UNBUCKLING AUTOMATIC BELTS

OPINION STATEMENTS ABOUT AUTOMATIC BELTS	PERCENT AGREEING WITH STATEMENT		
	Not at All Likely To Unbuckle (n=704)	Somewhat Likely To Unbuckle (n=308)	Very Likely To Unbuckle (n=187)
Automatic seat belts would be uncomfortable	30%	58%	71%
Automatic belts would make it harder to get in and out of the car	30	56	59
It would be a nuisance to be belted . . . for just a short ride	21	58	66
In an accident, automatic seat belts might trap people in car	53	80	89
Automatic seat belts are probably more complicated so they are more likely to break down	61	84	86
Automatic seat belts would greatly reduce the chances of being injured	87	79	64

NOTE: A Chi-square test found that all the differences shown among the three groups were statistically significant at a .05 level or greater.

As shown in Table 2-10, individuals likely to subvert (unbuckle or permanently disconnect) automatic safety belts tended to be infrequent users of manual belts (both on short and long trips), less educated, residents in non-MUL states, and younger.[4]

TABLE 2-10

DEMOGRAPHIC AND USAGE PREDICTORS OF THE LIKELIHOOD OF SUBVERTING AUTOMATIC BELTS

Variable	Beta	F
Short Trip Usage	- .286	36.5
Long Trip Usage	- .194	17.9
Education	- .080	7.2
MUL Implemented	- .070	5.3
Age	- .062	4.5
n = 949 Adjusted R_2 = 20.9%		

Patterns of Opinions Characterizing Individuals Likely to Subvert Automatic Safety Belts.

Stepwise multiple regression was also used to identify the pattern of opinions that best characterized individuals likley to subvert automatic safety belts. Because the strongest predictor of likelihood of subverting automatic belts was current use of manual belts, these analyses were conducted separately among frequent users (use belts most of the time or almost always) and infrequent users (sometimes, rarely, or never) of manual belts on short trips. These results are summarized below.

Predictors for Subverting Automatic Belts Among Infrequent Users. Among infrequent users, the likelihood of subverting automatic belts was higher among men then among women (as shown in Table 2-11). Having controlled for gender, the likelihood of subverting automatic belts was higher among individuals who agreed that automatic belts: might trap people in an

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[4] The following candidate variables were not selected to enter the prediction equations: gender, compact vs. large car ownership, U.S. vs. foreign car ownership, car purchase intent, urbanicity, presence of teenage children, presence of preschool children, and marital status.

TABLE 2-11

PREDICTORS OF THE LIKELIHOOD OF SUBVERTING AUTOMATIC SAFETY BELTS AMONG INFREQUENT USERS OF MANUAL SAFETY BELTS

Variable	Beta	F
Male	.104	5.9
Might Trap	.210	17.8
Nuisance	.154	8.7
Uncomfortable	.115	5.3
Family Protection	- .148	10.0
Reduce Injury	- .120	6.5
n = 407 Adjusted R_2 = 26.3%		

accident--this was the strongest predictor of the likelihood of subverting automatic belts among infrequent users; were a nuisance to wear; and were uncomfortable.

The likelihood of subverting automatic belts was lower among non-users who agreed that: they would feel better knowing that their family would alway have some protection in an accident, and automatic belts would greatly reduce the chances of being injured.

Predictors for Subverting Automatic Belts Among Frequent Users. Among frequent manual belt users, the likelihood of subverting automatic safety belts was higher among younger, less educated, individuals (as shown in Table 2-12). Once these demographic differences had been controlled for, the likelihood of subverting automatic belts was highest among individuals who believed that automatic safety belts were (1) a nuisuance, (2) uncomfortable, and (3) complicated. The likelihood of subverting belts was lower among frequent users who agreed that (1) automatic belts would reduce injury, and (2) offered the advantage of not having to remember to buckle up.

The main difference between the predictors for frequent and infrequent users appears to be that infrequent users are influenced by the concern that automatic belts might trap them, and motivated positively by the belief that automatic belts might provide family protection. Among frequent

TABLE 2-12

PREDICTORS OF LIKELIHOOD OF SUBVERTING AUTOMATIC SAFETY BELTS AMONG FREQUENT MANUAL SAFETY BELT USERS

Variable	Beta	F
Age	- .128	10.8
Education	- .086	4.6
Nuisance	.246	30.5
Uncomfortable	.131	8.4
Complicated	.106	6.2
Reduce Injury	- .088	4.6
No Remembering	- .098	5.6
n = 536 Adjusted R_2 = 21.2%		

users, who may be more likely to agree with these items anyway, the likelihood of subversion was predicted by the belief that automatic belts would be a nuisance.

Comparative Findings

The basic profile of individuals likely to disconnect automatic safety belts was similar to that found in other studies. Other studies have found that the likelihood of disconnecting automatic safety belts is higher among younger respondents and among men (Hart, 1978, Transport Canada, 1982). In all of these previous studies, the strongest relationships were found for usage of manual safety belts.

- A 1978 survey found that 68 percent of infrequent users, compared to 25 percent of frequent users, were likely to disconnect automatic belts (Hart, 1978).

- A 1979 survey found that 51 percent of never-users, compared to 19 percent of sometimes users, and 5.9 percent of always users, reported that they would disconnect automatic belts (Teknetron, 1979).

- A 1983 survey found that 46 percent of never users, compared to 18 percent of drivers who always or almost always used belts, said

that they would disconnect, but occasionally use, automatic (detachable) belts. The proportion of drivers who said that they would permanently disconnect automatic belts was 20 percent among never users compared to 1 percent among drivers who used belts almost always or always (Insurance Institute for Highway Safety, 1984).

HOW DOES THE PRESENCE OR ABSENCE OF A MANDATORY USE LAW AFFECT THE PUBLIC'S ACCEPTANCE OF AUTOMATIC SAFETY BELTS?

The presence or absence of a MUL had little effect on respondents' preference for or likelihood of purchasing automatic belts. When asked to choose between automatic and manual seat belts, about a third of the respondents in both MUL in Effect and MUL Not in Effect states preferred automatic belts and about 60 percent prefered manual belts. There were no significant differences in their likelihood of buying a car equipped with automatic belts--close to half of both groups said it would not make a difference either way.

However, there were differences between respondents living in MUL in Effect states and those in MUL Not in Effect states in their likelihood of unbuckling an automatic belt. As shown in Table 2-13 below, respondents in MUL in Effect states reported more frequently that they were not at all likely to unbuckle an automatic belt (63%) compared to those in MUL Not in Effect states (55%). However, as shown in the table, neither group thought it likely that they would permanently disconnect the system.

TABLE 2-13

LIKELIHOOD OF UNBUCKLING OR PERMANENTLY DISCONNECTING AUTOMATIC SAFETY BELTS BY MUL IN EFFECT VS. MUL NOT IN EFFECT RESPONDENTS

LIKELIHOOD OF SUBVERTING	MUL IN EFFECT (n=579)	MUL NOT IN EFFECT (n=634)
Likelihood of Unbuckling:		
Not at All Likely	63%	55%
Somewhat Likely	19%	27%
Very Likely	16%	15%
Likelihood of Permanent Disconnect		
Not at All Likely	81%	77%
Somewhat Likely	8%	10%
Very Likely	9%	10%

Differences between respondents with different levels of reported safety belt use in likelihood of unbuckling automatic belts are quite significant within the two MUL status groups, as shown in Table 2-14 below. At first glance the percentages appear to be contradictory to the finding that respondents in MUL in Effect states are less likely to unbuckle than those in MUL Not in Effect states--a higher percentage of each user group in MUL in Effect states is more likely to unbuckle than in MUL Not in Effect states. However, the considerably larger proportion of Almost Always users in MUL in Effect states (who are the least likely to unbuckle) and the smaller proportion of Rarely users (who are most likely) serve to keep the overall percentage lower: 37 percent of respondents in MUL in Effect states compared to 42 percent in MUL Not in Effect states said it was likely they would unbuckle.

TABLE 2-14

LIKELIHOOD OF UNBUCKLING OR PERMANENTLY DISCONNECTING AUTOMATIC SAFETY BELTS BY MUL IN EFFECT AND MUL NOT IN EFFECT AND SAFETY BELT USAGE SUBGROUPS

LIKELIHOOD OF SUBVERTING AUTOMATIC SAFETY BELT	MUL IN EFFECT				MUL NOT IN EFFECT			
	Almost Always (334)	Long Trip (152)	Rarely (90)	Total (565)	Almost Always (187)	Long Trip (220)	Rarely (187)	Total (632)
Likely to Unbuckle*	20	49	83	37	12	49	65	42
Very Likely	6	16	51	16	6	12	27	15
Likely to Permanently Disconnect*	11	22	42	17	9	14	24	20
Very Likely	4	7	27	9	2	9	18	10

*Includes "very likely" and "somewhat likely" responses.

Of particular interest is that 83 percent of Rarely users in MUL in Effect states said it was likely they would unbuckle--this is more than four times the proportion of Almost Always users; in MUL Not in Effect states the Rarely users were five times more likely to report that they would be likely to unbuckle (65%) an automatic seat belt. Further, half of the Rarely users in MUL in Effect states said it was very likely they would unbuckle, and almost half report that they would permanently disconnect

them. While this group represents only about 16 percent of the respondents in MUL in Effect states, they are clearly a group that will be difficult to persuade to wear safety belts (manual or automatic).

WHAT INFORMATION ABOUT AUTOMATIC SAFETY BELTS IS DESIRED BY THE U.S. PUBLIC?

The concluding question in the automatic safety belt section was, "What information would most help you decide whether to have automatic belts in your next car?" The most frequent responses (given by 25 percent of the respondents) were in the category of "consumer reports/data/statistics." (See Table 2-15.) Related responses about "how they work mechanically" were given by 23 percent of the respondents. Respondents who are most in need of this information were the least likely to mention these areas (i.e., those who were more likely to unbuckle an automatic safety belt and who used seat belts less frequently).

The next most frequently mentioned response was "Nothing"; in other words, the respondents either felt they had enough information about automatic belts to make up their minds or were not interested in obtaining additional information. Therefore, somewhat disparate groups gave this response frequently: 33 percent of those who had ridden in a car with automatic belts (and therefore presumably felt they did not require additional information) and 35 percent of those who rarely use their seat belt and 37 percent of those who said it was very likely they would unbuckle an automatic belt. These latter two groups apparently are not interested in protection systems.

The cost of automatic belts was the fourth most-frequently-mentioned item, mentioned by 14 percent of all respondents. Individuals who were unsure whether they preferred manual or automatic belts gave this response the most frequently--24 percent compared to 17 percent of those who preferred automatic belts and 11 percent of those who preferred manual. Cost, along with information proving that automatic belts are effective, could be deciding factors for this group in accepting automatic belts.

Comfort and convenience were mentioned only by 8 percent of the respondents (there were no differences among subgroups) and safety and effectiveness were mentioned by 7 percent and 8 percent, respectively. Safety and effectiveness were mentioned more by respondents who appear to be more safety conscious (i.e., those not likely to unbuckle an automatic belt and individuals who almost always wear a safety belt.

WHAT INFORMATION DOES THE U.S. PUBLIC <u>NEED</u> TO MAKE AN INFORMED DECISION ABOUT AUTOMATIC SAFETY BELTS?

In general, the U.S. public requires considerable information about automatic safety belts. Most respondents had not even heard of them, and those who had could volunteer only minimal information about how they worked. Furthermore, they expressed concerns about malfunctioning and

TABLE 2-15

INFORMATION CONSIDERED MOST HELPFUL IN DECIDING TO HAVE AUTOMATIC SAFETY BELTS
(For U.S. Population and Seat Belt Usage, Exposure, and Likelihood of Unbuckling Subgroups)

INFORMATION CONSIDERED MOST HELPFUL IN DECIDING TO HAVE AUTOMATIC BELTS:	U.S. Population	CURRENT SAFETY BELT USAGE			EXPOSURE TO AUTOMATIC			LIKELIHOOD OF UNBUCKLING		
		Almost Always	Long-Trip	Rarely	Not Heard	Heard	Rode	Not at All	Somewhat	Very
Nothing	23%	19%	18%	35%	23%	20%	33%	19%	24%	37%
Consumer Reports/Statistics	25	29	26	18	26	26	20	29	23	16
How They Work Mechanically	23	23	26	20	24	25	13	22	25	22
Cost	14	14	16	11	14	15	12	16	12	9
Effectiveness	10	13	10	6	9	11	13	12	7	8
Comfort/Convenience	8	7	8	9	9	5	5	8	7	8

trapping people in the car (the latter being a concern of the public about manual seat belts as well). There is, therefore, a large information gap concerning automatic belts--both in areas specific to automatic belts and safety belts in general.

The most frequently mentioned responses--consumer reports/statistics, information on how automatic belts work mechanically, and cost--are obvious informational needs. These responses are encouraging because they indicate that the public appears to be open to the idea of automatic belts if they are presented with facts about how they operate and their effectiveness. Unfortunately, the subgroups mentioning these responses the least frequently were those probably most in need of the information than other subgroups. Respondents who rarely use seat belts and said they were very likely to unbuckle an automatic belt were much more likely to respond that they wanted no further information about automatic belts and expressed the least interest in facts about how they work and even in cost. A major informational and "selling" effort will be needed to reach this sector of the public.

SECTION THREE

PUBLIC UNDERSTANDING AND ACCEPTANCE OF AIR BAGS

OVERVIEW

Although the U.S. public is very aware of and expresses a strong preference for air bags, it also expresses a strong disinclination to be willing to pay the cost of having air bags in their next car. Only a third said they would pay the cost of an AM/FM stereo radio/cassette player to have air bags. Over 90 percent of the respondents felt that air bags provided good protecton while at the same time expressing concerns about air bags: that they might inflate by mistake, the driver would lose control or could not see, and whether the air bag would work when needed. Those individuals most in need of an automatic protection system--those who rarely wear safety belts--expressed the least preference for air bags and the least likelihood of purchasing a car equipped with air bags. The presence or absence of a MUL had little effect on respondents' acceptance of air bags.

IS THE U.S. PUBLIC AWARE OF AIR BAGS?

The U.S. public is quite aware of air bags: over 90 percent of respondents said that they had heard of air bags, 8 percent said they had not heard (less than 1% said they were unsure). This is comparable to the proportion of respondents (93%) who said they knew about air bags in a December 1985 survey by Traffic Safety Now. There has been an increase in awareness of air bags over the last eight years--in a 1978 survey 79 percent of respondents said that they had heard of air bags (Hart, 1978).

WHAT DOES THE U.S. PUBLIC KNOW ABOUT AIR BAGS?

How Accurate is the Public's Knowledge of Air Bags?

Respondents who said they had heard of air bags were asked: "What have you heard about how it works?" Seventy-six percent of these respondents gave accurate information only, 3 percent inaccurate, 6 percent both accurate and inaccurate, and the remainder (15%) no response. These results are shown in Table 3-1.

Almost two-thirds of the respondents mentioned that air bags inflate automatically; that air bags inflate in head-on collisions, and provide protection from hitting the windshield, steering wheel and/or dashboard were mentioned next most frequently (37% and 39%, respectively). The remaining accurate responses were mentioned by only 5 percent or less of the respondents. The relative frequency of comments is comparable to what was reported in 1978.

TABLE 3-1

CORRECT AND INCORRECT STATEMENTS GIVEN ABOUT AIR BAGS[1]
(FOR TOTAL U.S. POPULATION)

KNOWLEDGE ABOUT AIR BAGS	TOTAL U.S.
	n=1,118
Correct Statement - All Mentions:	
Inflates Automatically	62%
Inflates in Head-On Collisions	37
Protects from Windshield, Steering Wheel Dashboard	39
Deflates Immediately	5
Must Be Replaced After Inflating	2
Would Add Cost to Car	4
Incorrect Statement - All Mentions:	
Inflates by Mistake Frequently	4%
Stays Inflated/Can't See When It Inflates	1
Might Not Inflate When Supposed To	3
Protects in All Kinds of Accidents	3
Don't Need Seat Belts With an Air Bag	1
Total Mentioned:	
Correct Only	76%
Incorrect Only	3
Both Correct and Incorrect	6
No Response	15%

[1] Asked only of respondents who said they "Had Heard" of air bags; table excludes 8% who said they had not heard of air bags.

Inaccurate responses were given by only 4 percent or less of the respondents. However, as reported below in this section, when negative (and inaccurate) statements were read to respondents, significant percentages of respondents agreed with those statements.

Population Subgroup Findings

- Demographic Subgroups. Males, and particularly younger respondents and better educated respondents, gave more accurate responses about air bags than their counterparts. However, there were no differences in the frequency with which inaccurate information was mentioned. (See Table B-5 in Appendix B.)

WHAT ARE THE U.S. PUBLIC'S PERCEPTIONS OF AIR BAGS?

Overview

The U.S. public recognizes the protection provided by air bags, but at the same time has some concerns about air bags: inflating by mistake, causing the driver to lose visibility or hitting the driver too hard, and whether the air bag would work when needed. These concerns were raised in response to opinion statements considerably more than when asked for good and bad points. Cost--both initial and replacement--was most frequently mentioned as a bad point (no comparable opinion statement was included). Overall, respondents held more favorable than unfavorable opinions about air bags.

What Does the Public See as the Good and Bad Points of Air Bags?

U.S. Population

Respondents were asked, "What do you think of as the good or bad points about air bags?" Table 3-2 shows, for each item mentioned, the percentage who mentioned the item as their first response and the total percentage who ever mentioned the item.

- In their first responses, 48 percent mentioned good points, 37 percent bad points, and 15 percent had no response.
- The most frequently mentioned good point about air bags was, "good protection from windshield/steering wheel" (30% first, 43% all mentions).
- Other good points were mentioned by 11 percent or less of the respondents.
- The most frequently mentioned bad point about air bags was cost: replacement cost was mentioned first by 12 percent (29% all

TABLE 3-2

GOOD/BAD POINTS MENTIONED ABOUT AIR BAGS
(FOR TOTAL U.S. POPULATION)

GOOD/BAD POINTS ABOUT AIR BAGS	TOTAL U.S.	
	n=1,214	
	% Mentioned First	% Mentioned Ever
Direction First Mention:		
Good Point	48	N/A
Bad Point	37	N/A
No Response	15	N/A
Good Points Mentioned:		
Good Protection	30	43
Protect Beyond Seat Belts	7	11
Protect Non-Seat Belt Users	2	4
Other Positive	6	10
Bad Points Mentioned:		
Expensive to Replace	12	29
Expensive	6	14
Inflate Wrong Time	8	20
Mechanical Failure	2	5
Give Limited Protection	2	5
Not Know if Working Till Crash	2	6
No Better Than Seat Belts	1	4
Other Negative	6	13

mentions) and initial cost first mentioned by 6 percent (14% all mentions). Twenty percent of the respondents mentioned that air bags might inflate at the wrong time (8% first mentions).

Population Subgroup Findings

Table B-6 in Appendix B shows the percentages of demographic subgroups who mentioned good and bad points about air bags. Results are summarized below:

- Demographic Subgroups. Males more often than females mentioned bad points (40% vs. 34%), particularly cost items and mechanical failure, and younger respondents mentioned more good points than older, especially concerning increased protection. Differences in the frequency with which various educational subgroups initially mentioned good and bad points were not significant.

Comparative Findings

Concern for the replacement cost of air bags was rarely mentioned in 1978, but in the current survey the cost of replacing air bags was the most frequently mentioned bad point about air bags (mentioned by 29% of the respondents).

A major concern about air bags remains, however: namely, that they might deploy inadvertently. In a 1978 survey, 47 percent of respondents mentioned the possibility that air bags might inflate by mistake as one of the disadvantages about air bags. In the current 1986 survey, 20 percent of respondents mentioned the possibility that the air bags might inflate by mistake as one of the bad points about air bags. As discussed below, 81 percent of respondents agreed with the opinion statement that this might happen.

What Are the Public's Opinions of Air Bags?

U.S. Population

Respondents were told that they would be read some opinions that other people have about air bags and were asked to indicate whether they agreed strongly, agreed somewhat, disagreed somewhat, or disagreed strongly with each. The responses to these opinion statements (which included three positive and seven negative statements) are shown in Table 3-3. The results are summarized below.

The two statements with the greatest level of agreement expressed favorable opinions:

- "I would feel better knowing that my family would always have some protection in an accident." (92% agreed; 70% agreed strongly); and,

TABLE 3-3

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AIR BAGS
(TOTAL U.S. POPULATION, SAFETY BELT USAGE AND INTENT TO PURCHASE NEW CAR SUBGROUPS)

OPINIONS ABOUT AIR BAGS	TOTAL U.S.	CURRENT SAFETY BELT USAGE				INTEND TO PURCHASE IN NEXT 5 YEARS		
		Almost Always	Long Trip	Rarely	p[1]	Yes	No	p[1]
	n=1,214	n=520	n=373	n=314		n=771	n=404	
Greatly Reduce Chances of Injury:								
Agree Strongly	55	57	54	53		57	52	
Agree Somewhat	36	35	37	39		35	37	
Disagree Somewhat	6	5	7	5		6	7	
Disagree Strongly	3	3	2	3		2	4	
Family Protection:								
Agree Strongly	70	74	69	64		71	70	
Agree Somewhat	22	18	26	27		22	22	
Disagree Somewhat	5	5	4	6		5	4	
Disagree Strongly	3	3	2	3		2	4	
Less Likely to Cause Injury Than Seat Belts:								
Agree Strongly	26	24	26	31		27	26	
Agree Somewhat	40	40	40	40		40	38	
Disagree Somewhat	23	23	24	21		22	25	
Disagree Strongly	11	13	11	8		11	11	
Might Inflate by Mistake:					*			
Agree Strongly	34	32	29	40		32	35	
Agree Somewhat	47	44	51	48		48	47	
Disagree Somewhat	12	16	12	7		13	11	
Disagree Strongly	7	8	8	5		7	7	

[1]Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE 3-3 (Continued)

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AIR BAGS
(TOTAL U.S. POPULATION, SAFETY BELT USAGE AND INTENT TO PURCHASE NEW CAR SUBGROUPS)

OPINIONS ABOUT AIR BAGS	TOTAL U.S.	CURRENT SAFETY BELT USAGE				INTEND TO PURCHASE IN NEXT 5 YEARS		
		Almost Always	Long Trip	Rarely	p[1]	Yes	No	p[1]
	n=1,214	n=520	n=373	n=314		n=771	n=404	
Driver Would Lose Control:					*			
Agree Strongly	36	31	34	44		36	35	
Agree Somewhat	36	33	40	37		36	37	
Disagree Somewhat	17	21	14	14		16	17	
Disagree Strongly	11	15	12	5		12	11	
Driver Couldn't See:					*			*
Agree Strongly	40	38	39	45		37	46	
Agree Somewhat	35	32	41	32		37	32	
Disagree Somewhat	15	16	13	15		15	14	
Disagree Strongly	10	14	7	8		11	8	
Might Hit Driver/Passenger Too Hard:					*			*
Agree Strongly	10	9	10	13		10	11	
Agree Somewhat	23	18	24	32		19	30	
Disagree Somewhat	29	27	32	27		31	26	
Disagree Strongly	38	46	34	28		40	33	
Unsure Air Bags Would Work When Needed:					*			
Agree Strongly	34	27	37	40		33	34	
Agree Somewhat	39	40	37	40		38	41	
Disagree Somewhat	15	16	16	13		15	15	
Disagree Strongly	12	17	10	7		14	10	

[1]Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE 3-3 (Continued)

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AIR BAGS
(TOTAL U.S. POPULATION, SAFETY BELT USAGE AND INTENT TO PURCHASE NEW CAR SUBGROUPS)

OPINIONS ABOUT AIR BAGS	TOTAL U.S.	CURRENT SAFETY BELT USAGE				INTEND TO PURCHASE IN NEXT 5 YEARS		
		Almost Always	Long Trip	Rarely	p[1]	Yes	No	p[1]
	n=1,214	n=520	n=373	n=314		n=771	n=404	
Not Enough Protection in All Types of Crashes:					*			*
Agree Strongly	39	34	41	45		37	41	
Agree Somewhat	32	27	34	37		30	35	
Disagree Somewhat	16	19	16	11		18	12	
Disagree Strongly	13	20	9	7		15	12	
Not Enough Protection for Children:					*			
Agree Strongly	47	47	44	52		46	50	
Agree Somewhat	33	30	38	30		33	32	
Disagree Somewhat	13	13	11	13		14	10	
Disagree Strongly	7	10	7	5		7	8	

[1]Asterisk (*) indicates differences are statistically significant at the .05 level or better.

- "Air bags would greatly reduce the chances of being injured in a car accident." (91% agreed; 55% agreed strongly).

However, negative opinion statements also received substantial agreement: six of the seven negative opinion statements were agreed to by over 70 percent of the respondents:

- "Air bags might inflate by mistake (81% agreed; 24% agreed strongly);
- "The driver would lose control of the car once the air bags had inflated." (73% agreed; 36% agreed strongly);
- "The driver wouldn't be able to see out the front window once the air bags had inflated." (75% agreed; 35% agreed strongly);
- "It would be hard to know if air bags would really work when needed." (73% agreed; 34% agreed strongly); and,
- "Air bags aren't very worthwhile because they don't provide enough protection in [all types of crashes]." (72% agreed; 39% agreed strongly).

The remaining negative statement, "Air bags might hit the driver too hard," was agreed to by only 30 percent.

Population Subgroup Findings

Table B-7 in Appendix B shows the responses for demographic subgroups (including gender, age, and education); Table 3-3 shows responses for seat belt usage and intention to purchase subgroups for agree/disagree opinion statements about air bags. Results are summarized below.

- Demographic Subgroups. Males agreed more with positive statements than females, and less with negative statements. Older respondents and less educated respondents agreed more with negative statements about air bags to a much greater extent than younger and more educated respondents.
- Safety Belt Usage. Although there were no significant differences in responses to positive opinion statements, those who indicated that they infrequently used seat belts agreed more strongly to each of seven negative opinion statements about air bags than those who indicated more frequent usage.
- Intend to Purchase New Car. There was no difference in the level of agreement with any of the positive opinion statements about air bags between New Car Buyers and non-Buyers. However, the non-Buyers agreed to a greater extent with negative opinion statements

than the New Car Buyers, including that the driver would not be able to see, the air bag might hit the driver too hard, and the air bag does not provide enough protection in all types of accidents.

Comparison of Volunteered Good/Bad Points and Agreement with Opinion Statements

U.S. Population

Table 3-4 shows a comparison of the two sets of responses for comparable or related positive and negative responses given to the two questions discussed above.

Noteworthy is the fact that the most frequently mentioned good point was similar to the two agree/disagree statements eliciting the most agreement.

- The most frequently mentioned good point was "good protection from windshield/steering wheel" (30% first mention, and 43% all mentions).

- "I would feel better knowing that my family was protected," received overall agreement of 92 percent, and "Air bags would greatly reduce the chances of being injured in a car accident," overall agreement of 91 percent.

- The next most frequently mentioned good point (11% all mentions) was, "extra protection beyond seat belts."

- Other good points were infrequently mentioned (less than 10%) and were not presented as opinion statements (N/A).

- The most frequently mentioned bad point, "expense," was not presented as an agree/disagree statement. A total of 43 percent mentioned initial cost and/or replacement cost as a bad point, clearly a strong concern. As discussed later in this section, questions directed at the cost issue found the majority of respondents unwilling to pay the initial cost of purchasing air bags.

- The negative (negative in the sense that it presented a limitation of air bags systems) opinion statement eliciting the most agreement (81%)--"Air bags would not provide enough protection for small children unless they were sitting in a safety seat"--had no comparable mentions when respondents were asked about good and bad points. This may be because respondents who had small children generally use child safety seats (and therefore this is not an issue) and for respondents with older or no children this is not a concern. Therefore, it is not surprising that few respondents volunteered this issue even though a large majority agreed with the statement when it was read to them.

TABLE 3-4

COMPARISON OF AGREEMENT WITH OPINION STATEMENTS AND GOOD AND BAD POINTS MENTIONED ABOUT AIR BAGS (FOR U.S. POPULATION)

GOOD/BAD POINTS	PERCENT MENTIONED		OPINION STATEMEMTS	PERCENT AGREE	
	First	Ever		Strongly	Overall
Good Points:			Positive Opinions:		
Family Always Protected	< 2[1]	< 2	Family Always Protected	70	92
Good Protection	30	43	Reduce Chance of Injury	55	91
Extra Protection Beyond Seat Belts	7	11	Less Injury Than Seat Belts	26	66
Work Automatically	3	7	N/A		
Protect non-Seat Belt Users	2	4	N/A		
Bad Points:			Negative Opinions:		
Expensive to Replace	12	29	N/A		
Expensive	6	14	N/A		
Inflate at Wrong Time	8	20	Inflate by Mistake	34	80
Cause Loss of Control/ Mechanical Failure	2	5	Loss of Control	36	72
			Loss of Visibility	40	75
			Hit Driver/Passenger Too Hard	10	33
Not Work When Needed	2	6	May Not Work When Needed	34	73
Limited Protection (No Roll-Over, etc.)	2	5	Limited Protection (No Roll-Over, etc.)	39	71
Not Enough Protection for Children	< 2	< 2	Not Enough Protection for Children	47	80

[1] Maximum coded under "Other."

The fact that few negative features were volunteered by respondents is some indication that there is not substantial misunderstanding about the safety and effectiveness of air bags. On the other hand, most negative agree/disagree statements received substantial agreement, suggesting that when these issues were raised, the public still evidences some concern. The fact there there were more good points mentioned and that the opinion statements receiving the most agreement were positive ones concerning the protection afforded by air bags indicates a high acceptance level--except for what is probably the overriding issue: the cost of air bags.

WHAT IS THE PUBLIC'S PREFERENCE FOR AND ACCEPTANCE OF AIR BAGS?

Overview

Unfortunately, in the case of air bags, preference and acceptance (i.e., purchasing a car equipped with air bags) are two very separate issues. When respondents were asked to choose from among three systems, air bags (with manual belts), automatic belts, or manual belts only, half of the respondents chose air bags. This question was asked in the context of renting a car, thereby implying no additional cost (either purchase or replacement). When asked if they were willing to pay as much as the cost of an AM/FM stereo radio/cassette player (approximately $300), the majority of respondents said they were unwilling to pay that much for air bags. Therefore, while the public may like the system and prefer it in a rental car, they are not willing to pay the price to have their next car equipped with air bags.

Will the U.S. Public Purchase Cars Equipped with Air Bags?

U.S. Population

The majority of the U.S. public is unwilling to pay the additional cost to have their next car equipped with air bags, despite the fact they state a preference for air bags over either automatic or manual belts.

- Slightly more respondents (28%) said they would be more likely to buy a car if it came equipped with air bags than said they would be less likely (25%); 43 percent said it wouldn't make any difference. (The question did not mention a cost factor.)

- Only 33 percent of the respondents said they would be willing to pay as much as the cost of an AM/FM stereo radio/cassette player.

Population Subgroup Findings

- Demographic Subgroups. Although younger, more educated respondents and those who use seat belts more frequently indicated more preference to have air bags in their next car, in no subgroup was there

a majority of respondents who were willing to pay as much as the cost of an AM/FM stereo radio/cassette player. The largest percentage of any population subgroup willing to pay this cost was 41 percent in the age 30-39 group.

- Safety Belt Usage. Although more frequent safety belt users were more likely to buy a car equipped with air bags than Rarely users, a majority in none of these groups was willing to pay the cost of an air bag.

Comparative Findings

The findings from this study tend to confirm what has been consistently observed in prior surveys as well: namely, that preference for air bags is highly cost sensitive. For instance:

- The current 1986 study found that only 33 percent of respondents would agree to pay as much as the cost of an AM/FM stereo radio/cassette player.

- A 1983 survey found that 55% of respondents would prefer to purchase air bags if they cost $100, but that proportion dropped to 42 percent with a price of $350, and to 18 percent with a price of $1,000 (IIHS, 1984).

- A December 1985 survey by Traffic Safety Now found that 27 percent of respondents preferred air bags to Mandatory Use Laws when the cost of air bags was $300, but that proportion favoring air bags dropped to 21 percent when the cost was $500, and 13 percent when the cost was $800.

See Table 3-5 for a summary of previous survey results on this issue.

WHAT ARE THE OPINIONS OF THE U.S. PUBLIC WHICH PREFERS AIR BAGS?

What Are the Opinions of the People Who Prefer Air Bags to Belts?

Respondents who preferred air bags (with manual belts) over either automatic or manual safety belts only had consistently more favorable opinions towards air bags and fewer misconceptions, as shown in Table 3-6. However, even respondents favoring air bags over the two safety belt systems reported concerns about air bags: a majority of these respondents reported agreeing that "it would be hard to know if air bags would really work when needed," that "air bags might inflate by mistake," that "the driver would loose control of the car once the air bags had inflated," and that "the driver wouldn't be able to see out of the front window once the air bags had inflated." Therefore, even persons who favor air bags over safety belt systems have some serious reservations about air bags.

TABLE 3-5

PERCENT OF THE PUBLIC WILLING TO PAY GIVEN AMOUNTS FOR AIR BAGS[1]

SURVEY CONDUCTED BY	GROUP SURVEYED	YEAR	AMOUNT WILLING TO PAY (1982 Dollars): $0	$100	$200	$300	$400	$500	$600	$700	$800	$900
IHHS	Adult Drivers	1983		55%	47%	42%						18%
J. D. Power[2]	U.S. Households	1982	100%	80%		54%		26% ($400)				
VA. Hwy. & Transportation Res. Co.	Virginia Drivers	1979				56%						
Hart[3]	U.S. Drivers	1978		57%		52%		45%		41%		
Finklestein	U.S. Drivers	1978				41%						
Allstate	U.S. Metro Residents	1977				56%						
General Motors	Owners of GM:											
	Small Cars	1976-77	68%[4]		40%	19%		11%				
	Large Cars	1977	80%[4]		51%	26%		14%				
	Large Cars with Bags	1976	96%		87%	71%		58%				
Yankelovich, et.al[5]	U.S. Drivers	1976	100%		49%	29%		14%		7%		4%
Market Research Group	Oldsmobile Owners	1976			33%[6] 35%[7]	6%[6] 32%[7]		1%[6] 18%[7]				
General Motors	GM Car Owners	1971				50%[8]						
Nordhaus	U.S. Drivers	1986				27%		21%			13%	
SRA	U.S. Drivers/ Passengers	1986		57%[9]		33%[9]						
McGinley		1984				36%						

See Notes on following page.

NOTES TO TABLE 3-5:

1. The question of what the public would be willing to pay for air bags was asked in several different ways in the surveys reviewed. For example, some surveys asked what respondents would be willing to pay, others whether they would be willing to buy the systems at given costs; some studies offered a choice for opting for no automatic protection system, while one sought public preference for air bags versus automatic belt systems given a set of cost differentials between the two systems. This table attempts to summarize somewhat disparate surveys in a useful fashion, while recognizing that in some instances the data are not strictly comparable.

2. Eleven percent of the respondents could not provide a cost estimate. These 11 percent of the responses were allocated based on the 89 percent responses.

3. Respondents were asked to choose between air bag or automatic belt systems at various differences in cost for the two systems. For this summary, it is assumed that automatic belts cost $80.

4. Twenty percent of large car owners, 32 percent of small car owners, and 4 percent of owners of large cars with air bags said they would not have air bags in their next cars even at no cost.

5. The question on the maximum amount drivers would be willing to pay for air bags was summarized in the survey report only for the 62 percent of drivers who knew what an air bag was. And of this 62 percent, 61 percent were uncertain or did not know what they would be willing to pay. The data presented herein, therefore, represent only 24 percent of the total sample. Also, to a limited degree, certain assumptions had to be employed to sub-divide the distribution of costs in the report.

6. Percentages shown are for responses to the question of whether the respondent felt the public would be "greatly interested" in the air bag option at given prices.

7. Percentages shown are for responses to the question of whether the respondent felt the public would be "somewhat interested" in the air bag option at given prices.

8. Air bags selected over alternative systems with specified prices: No restraint @ $0 - 5 percent, manual belt system @ $35-$40 - 20 percent, automatic belt @ $20-$25 - 25 percent (1971 dollars).

9. Respondents were asked if they would be willing to pay as much as the cost of an AM radio (assumed to be around $40) or the cost of an AM/FM stereo radio/cassette player (assumed to be about $300) to have their car equipped with air bags.

TABLE 3-6

PERCENT AGREEING WITH OPINION STATEMENTS ABOUT AIR BAGS
BY PREFERRED OCCUPANT PROTECTION SYSTEM

RESPONDENT COMMENTS	PREFERRED PROTECTION SYSTEM		
	AIR BAGS (n=582)	AUTOMATIC BELTS (n=152)	MANUAL BELTS (n=421)
It would be hard to know if air bags really work when needed	62%	79%	83%
The driver would lose control of the car once the air bags had inflated	60	81	84
The driver wouldn't be able to see out of the front window once the air bag inflated	65	83	86
Air bags might inflate by mistake	74	86	89
Air bags might hit the driver and the passenger too hard when they inflate	7	43	53
Air bags aren't worthwhile because they don't provide enough protection in a rear-end, side or roll-over crash	54	88	86
Air bags would not provide enough protection for small children unless they were sitting in a safety seat safety seat	75	84	86
In a crash, air bags would be less likely to cause injury than seat belts	70	54	61
Air bags would greatly reduce the chances of being injured in a car accident	98	82	85
I would feel better knowing that my family would always have some protection in an accident	98	88	89

Similarly, a majority of all three groups (as shown in Table 3-6) believed that air bags were safer than safety belts and would greatly reduce the chance of being injured in an accident. Therefore, on all but one item ("air bags might hit the driver and passenger too hard when they inflate"), a majority of all respondent groups had similar patterns of response--only the strengths of their beliefs differed.

The same was true when comparing respondents based on their likelihood of purchasing a car equipped with air bags and the amount they were willing to pay to have air bags. Although there were statistical differences between the three subgroups, in all but one item ("air bags might hit the driver and passenger too hard when they inflate"), a majority of respondents in each group gave similar responses--the difference again being the strength of their belief. As would be expected, respondents who were not likely to buy a car if it came equipped with air bags had weaker positive attitudes and stronger negative attitudes, while respondents who were willing to pay as much as the cost of an AM/FM stereo radio/cassette player for air bags had weaker negative attitudes and stronger positive attitudes. However, even the respondents most likely to purchase a car equipped with air bags expressed concerns about whether air bags would work when needed, the loss of driver control, the driver's ability to see out the front window, and air bags inflating by mistake.

Who Are the People Likely to Prefer Air Bags?

Multivariate analysis was used to identify the pattern of opinions associated with preference for air bags. This preference scale was constructed by combining items about (1) preference for renting a car equipped with air bags, (2) increased likelihood of purchasing a car that came equipped with air bags, and (3) willingness to pay for air bags. As shown in Table 3-7, preference for air bags was higher among younger respondents and respondents in households with teenagers.[1] After these demographic differences were considered, as shown in Table 3-8 preference for air bags was higher among individuals who agreed that:

- Air bags would greatly reduce the chances of being injured in a car accident;
- I would feel better knowing that my family would always have some protection in an accident; and
- In a crash, air bags would be less likely to cause injury than seat belts.

---

[1] The following candidate demographic and usage variables were not selected to enter the prediction equation: gender, compact vs. large car ownership, U.S. vs. foreign car ownership, car purchase intent, urbanicity, presence of preschool children, education, MUL status, and safety belt usage on short trips.

TABLE 3-7

DEMOGRAPHIC AND USAGE PREDICTORS
OF PREFERENCE FOR AIR BAGS

Variable	Beta	F
Age	- .212	43.9
Long-Trip Usage	.129	16.5
Married	.068	4.5
Teenage Children	.056	3.0
n = 937 Adjusted R^2 = 7.4%		

TABLE 3-8

PREDICTORS OF PREFERENCE FOR AIR BAGS
FIRST ENTERING USAGE AND
DEMOGRAPHIC VARIABLES

Variable	Beta	F
Age	- .092	12.4
Teenage Children	.069	7.5
Reduce Injuries	.217	58.0
Won't Protect in All Crashes	- .199	50.1
Family Protection	.198	50.2
Lose Control	- .120	16.9
Inflate By Mistake	- .116	16.1
Hit Too Hard	- .110	14.0
Less Likely to Cause Injuries	.065	6.4
n = 937 Adjusted R^2 = 42.5%		

Preference for air bags was lower among individuals who agreed that:

- Air bags aren't very worthwhile because they don't provide enough protection in a rear-end, side or roll-over crash;
- The driver would lose control of the car once the air bags had inflated;
- Air bags might inflate by mistake; and
- Air bags might hit the driver and passenger too hard when they inflate.

These analyses suggest that preference for air bags may be influenced by three sets of factors: (1) concern about family protection, particularly in families that have teenagers; (2) belief about the effectiveness (and limitations) of air bags; and (3) misconceptions that air bags might inflate by mistake, hit occupants too hard, and cause the driver to lose control of the vehicle.

Does the Public Know that Safety Belts Should Be Used with Air Bags and Will the Public Use Them?

U.S. Population

When asked, "If you have an air bag in your car, should you wear a seat belt?," a substantial majority of respondents (70%) responded "yes" (a seat belt should be worn). (See Table 3-9 below.) Only 15 percent said that it should not be worn and 15 percent said they did not know. This represents a significant increase from 1979 when a national survey found that only 44 percent of respondents agreed that, "It is necessary to wear a lap belt in a car equipped with air bags." (Teknetron, 1979).

TABLE 3-9

KNOWLEDGE OF NEED FOR SEAT BELT WITH AIR BAGS (FOR U.S. POPULATION AND SAFETY BELT USAGE SUBGROUP)

SHOULD YOU WEAR A SAFETY BELT WITH AIR BAGS?	U.S. Population	SAFETY BELT USAGE		
		Almost Always	Long-Trip	Rarely
Yes	70%	86%	71%	52%
No	15	6	16	32
Don't Know	15	8	13	16

The reasons given for the need to wear a seat belt in a car with air bags were primarily for the added protection they afford (38%); 5 percent mentioned prevention from being thrown around in the car. Noteworthy is that 16 percent implied a negative attitude toward air bags in stating why safety belts were needed: in case the air bag didn't work (13%) and distrust of air bags (3%). Ten percent of the respondents believed the air bag provided enough protection without belts.

Sixty percent of the respondents said they would be very likely to wear seat belts in a car equipped with air bags. Only 15 percent said it was not at all likely. (See Table 3-10.)

TABLE 3-10

LIKELIHOOD OF WEARING A SEAT BELT WITH AIR BAGS
BY SAFETY BELT USAGE

LIKELIHOOD OF USING A SAFETY BELT WITH AIR BAGS	U.S. Population	SAFETY BELT USAGE		
		Almost Always	Long-Trip	Rarely
Very Likely	60%	85%	55%	26%
Somewhat Likely	25	10	35	35
Not At All Likely	15	5	10	39

Subgroup Findings

- Demographics. Males, older respondents and less educated respondents reported being less likely to wear a seat belt in an air bag equipped car.

- Safety Belt Usage. Considerably more Almost Always users (85%) said it was very likely that they would wear seat belts with an air bag than Rarely users (25%); Long-trip users were intermediate (55%). Over a third (39%) of Rarely users said it was not at all likely that they would wear a seat belt compared to only 5 percent of Almost Always users and 10 percent of Long-trip users. (See Table 3-10.)

- MUL in Effect vs. Not in Effect. Respondents in MUL in Effect states reported more frequently that they would use seat belts with air bags than those in Not in Effect states (65% vs. 55%), respectively).

Comparative Findings

The proportion of adults who reported that they would be likely to use a manual belt in an air bag-equipped car appears to have increased dramatically from eight years ago. A 1978 survey found that 39 percent of respondents said that they would be likely to use manual belts in an air bag equipped car compared to 85 percent in the current 1986 survey.

As was the case in the current study, the major predictor of use of manual belts in an air bag equipped car was current use of manual belts. In the 1978 survey, 67 percent of frequent users, compared to only 7 percent of infrequent users reported that they would be very likely to use lap belts. In the current 1986 survey, 85 percent of Almost Always users and 55 percent of Long-trip users, compared to only 26 percent of Rarely users said that they would be "very likely" to use a seat belt to provide added protection.

One reason for the growth in the proportion of adults who indicated that they would wear lap belts in air bag equipped cars may be that knowledge about the importance of wearing lap belts for full protection with air bags is increasing. A 1979 survey found that only 44 percent of respondents answered yes to the question, "Is it necessary to wear a lap belt in a car equipped with air bags?" In the current 1986 survey, 70 percent of respondents said yes to the question, "If you have an air bag in your car, should you wear a seat belt?" This level of knowledge is consistent with the finding that 71 percent of respondents agreed with the statement that "air bags aren't very worthwhile because they don't provide enough protection in a rear-end, side, or roll-over crash."

A 1981 Canadian survey found that projected use of safety belts in air bag equipped cars use was higher in Provinces having mandatory safety belt usage laws; 53 percent of respondents in MUL provinces reported being very likely to use lap belts in air bag equipped cars compared to 31 percent of respondents in non-MUL provinces (Transport Canada, 1982). Similarly, in the current 1986 survey, it was found that 65 percent of respondents in MUL in Effect states compared to 55 percent of respondents in MUL Not in Effect states reported that they would be very likely to use seat belts in an air bag equipped car.

Who Are the People Likely to Wear Belts in an Air Bag-Equipped Car?

Multivariate analysis found that among frequent safety belt users,[2] the likelihood of wearing a lap belt for additional protection was lower

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[2] In this multivariate analysis, stepwise multiple regression was run for two groups of users, rather than the three groups used throughout the rest of the report in order to conserve sample size. Frequent safety belt users included respondents who said they wore safety belts on short trips "most of the time" or "Almost Always." The infrequent users included respondents who said they "never," "rarely," or "sometimes" wore safety belts on short trips.

among older respondents who were concerned that air bags might hit them too hard, and who agreed that automatic (and by inference any) safety belts were a nuisance. (See Table 3-11.)

TABLE 3-11

PREDICTORS OF LIKELIHOOD OF WEARING SEAT BELTS IN AIR BAG CAR AMONG FREQUENT USERS OF MANUAL BELTS

Variable	Beta	F
Age	- .093	4.6
Belts are a Nuisance	- .177	16.1
Air Bags Might Hit Too Hard	- .115	6.6
n = 517		
Adjusted R^2 = 6.3%		

Among infrequent safety belt users, the likelihood of wearing a lap belt for additional protection was lower among men who (1) believed that air bags would cause less injuries than manual belts, who (2) were not as aware of the family protection provided by air bags, and who believed that automatic (and by inference manual) belts would be (3) uncomfortable and (4) a nuisance. (See Table 3-12.)

TABLE 3-12

PREDICTORS OF LIKELIHOOD OF WEARING SEAT BELTS IN CARS EQUIPPED WITH AIR BAGS AMONG INFREQUENT USERS OF MANUAL SAFETY BELTS

Variable	Beta	F
Male	.102	4.8
Air Bags Are a Nuisance	- .201	14.4
Belts Are Uncomfortable	- .136	6.5
Air Bags Are Less Likely to Cause Injuries	- .132	7.7
Air Bags Offer Family Protection	.099	4.4
n = 410		
Adjusted R^2 = 13.0%		

These findings suggest that encouragement for use of safety belts for full protection in an air bag-equipped car can be furthered by (1) continued efforts to reduce the negative image about safety belts, and (2) by realistic explanation of the limitations of air bag systems.

WHAT INFORMATION ABOUT AIR BAGS IS DESIRED BY THE U.S. PUBLIC?

The concluding question about air bags was, "What information would most help you decide whether to have air bags in your next car?" The most frequently given responses concerned consumer reports and statistics and information about how they worked mechanically and how effective they are. Cost factors were the next most frequently mentioned, with 17 percent mentioning initial cost and 8 percent mentioning replacement cost. Eight percent also mentioned that they wanted information concerning the dangers of air bags.

WHAT INFORMATION DOES THE U.S. PUBLIC NEED TO MAKE AN INFORMED DECISION ABOUT AIR BAGS?

It is interesting that only 8 percent of the respondents mentioned the dangers of air bags as a factor about which they wanted more information--in the opinion statements they indicated a fair amount of concern about such things as the driver losing control and not being able to see. The dangers of air bags seem to be of concern only when they are suggested to the respondent (as in reading an opinion statement to them). There is apparently concern about how they work (73% of respondents agreed that air bags might not work when needed) even though a large majority of respondents agreed that air bags offered good protection.

Both the good points and limitations of air bags need to be explained to the public. The reliability of air bags--that they do work when needed --should be stressed. The public--and especially those who express a favorable opinion about air bags--needs to know that they do not provide protection in all types of crashes and that a seat belt is needed to afford full protection. And of course the cost of air bags needs to be addressed --both the initial cost and the replacement cost. It will be of no benefit to convince the public of the usefulness of air bags if they are not fully appraised of the cost at the same time. While cost for many households will be a prohibiting factor in the purchase of a car equipped with air bags, for some the advantages will be worth the expense.

COMPARISON OF ACCEPTANCE OF OCCUPANT PROTECTION SYSTEMS

U.S. Population

When given a choice between manual and automatic safety belts, manual belts were the clear preference (60%), almost two to one, over automatic belts. However, when the additional choice of air bags was introduced (in

the context of renting a car with no cost implications), half of the respondents chose air bags, leaving only 37 percent who prefer manual belts and 13 percent who prefer automatic belts. (See Table 3-13.)

TABLE 3-13

PREFERENCES FOR OCCUPANT PROTECTION SYSTEMS
(U.S. POPULATIONS)

PREFERENCE GROUP	Comparing Manual and Automatic Belts	Comparing Manual, Automatic Belts, and Air Bags
Prefer Manual Belts Only	60%	37%
Prefer Automatic Belts	33	13
Prefer Air Bags with Manual Belts	N/A	50

The cost of the occupant protection system is a significant factor in the acceptance of air bags and, to a lesser extent, in the acceptance of automatic safety belts. As shown in Table 3-14, 46 percent of all respondents would be willing to pay as much as the cost of an AM radio to have automatic safety belts in their car. However, only 25 percent of those who preferred manual belts were willing to pay the cost of automatic belts. Given the small number of respondents who preferred automatic seat belts (33%), it is somewhat surprising that as much as 46 percent of the respondents said they would be willing to pay any extra cost for automatic belts.

Only 33 percent of the respondents were willing to pay as much as the cost of an AM/FM stereo radio/cassette player to have air bags. Another indication that cost is a significant factor in the acceptance of air bags is that cost was the most frequently mentioned bad point of air bags (29% mentioned replacement and 14% initial cost) and 25 percent said they would like more information about cost. Therefore, while respondents expressed a clear preference for air bags over either manual or automatic seat belts, their cost appears to be prohibitive to the general U.S. public.

TABLE 3-14

WILLINGNESS TO PAY COST OF PROTECTION SYSTEM
BY PREFERENCE GROUPS

PREFERENCE GROUP	PERCENT WILLING TO PAY COST* OF	
	AUTOMATIC BELTS	AIR BAGS
Prefer Manual Belts Only	25%	10%
Prefer Automatic Belts	80	20
Prefer Air Bag with Manual Belts	52	53
Total U.S.	46	40

* Cost for Automatic belts estimated at $40 (cost of an AM radio); cost for air bags estimated at $300 (cost of an AM/FM stereo radio/cassette player.

If air bags are currently not a viable alternative for the general public, the preference between manual and automatic belts is perhaps the most meaningful. That a third of the public prefers automatic belts to manual, and an even higher proportion is willing to pay their cost, should be encouraging to the NHTSA and car manufacturers, particularly taking into account that this level of acceptance was expressed by a public generally unaware of automatic belts.

Population Subgroups

- Gender. There were no differences between males and females in their preference for occupant protection systems: about half of both groups chose air bags with manual belts, and only 12 percent to 14 percent chose automatic belts.

- Age. Younger respondents preferred air bags with manual belts while older respondents preferred manual belts only. No age group preferred automatic seat belts (the highest percentage was 16%--the age 60 and over group). Around 60 percent of the two youngest age groups preferred air bags with manual belts, while only about 30 percent of these respondents chose manual belts only. In contrast, 51 percent of the age 60 and over group chose manual belts only while only a third preferred air bags with manual belts.

- Education. Respondents with a higher educational level favored air bags with manual belts over manual belts only, while those with less than a high school degree favored manual belts only. No group preferred automatic seat belts (the highest percentage favoring manual belts was the group with less than a high school degree (19%) and the lowest was the college graduate group (11%). Preference for air bags with manual belts ranged from 49 percent to 57 percent in the high school graduate and above groups, but only 37 percent in the non-high school graduate group. Manual belts only were favored by 44 percent of the non-high school graduate group, decreasing to 32 percent in the college graduate group.

- Safety Belt Usage. A majority of the Almost Always seat belt users (55%) preferred air bags with manual belts over the other two systems. This percentage decreased to 49 percent for Long-trip users and to 43 percent for Rarely users. Conversely, while a third of the Almost Always users and Long-trip users chose manual safety belts only, 45 percent of the Rarely users made this choice. Sixteen percent of the Long-trip users preferred automatic safety belts, and 12 percent of the other two groups made this choice.

- Respondents Who Intend to Buy a Car in the Next Five Years (Buyers). Over half of the Buyers indicated a preference for air bags and a third preferred manual seat belts. Only 12 percent of the Buyers preferred automatic seat belts over the other two systems. There were no differences in their willingness to pay the cost of either automatic belts or air bags.

Does The Presence of a MUL Affect the Public's Preference For or Acceptance of Automatic Protection Systems?

There were no differences between respondents in MUL in Effect and MUL Not in Effect states when asked to choose (in renting a car) among air bags (with manual belts), automatic belts, and manual belts only. About half of both groups preferred air bags, 13 percent preferred automatic belts, and the remaining 36 percent to 38 percent preferred manual belts only. The groups responded similarly to questions concerning the likelihood of purchasing a car with air bags, with about a quarter stating they would be less likely to purchase a car if it were equipped with air bags, and about two-thirds reporting that they would not be willing to pay as much as the cost of an AM/FM stereo radio/cassette player to have air bags in their car.

Respondents in MUL in Effect states did respond that they would be "very likely" to wear a seat belt in a car equipped with air bags slightly more so than did respondents in MUL Not in Effect states (65% versus 55%, respectively).

Comparative Findings

A 1981 Canadian survey found that seat belt use was higher in provinces having mandatory safety belt use laws; 53 percent of respondents in provinces reported being very likely to use lap belts in air bag-equipped cars compared to 31 percent of respondents in non-MUL provinces (Transport Canada, 1982). Similarly, in the current 1986 survey, it was found that 65 percent of respondents in MUL in Effect states compared to 55 percent of respondents in MUL Not in Effect states reported that they would be very likely to use seat belts in an air bag equipped car.

SECTION FOUR

PUBLIC SUPPORT AND ACCEPTANCE OF MANDATORY SAFETY BELT USE LAWS

OVERVIEW

The U.S. public is very aware of mandatory use laws in their states--93 percent knew of the law when it was in effect, and the public supports those laws. Eighty percent of respondents in states with MULs in effect favored the laws and 74 percent in states which had no law in effect would favor such a law. The MULs have had a significant impact on increasing reported safety belt usage, and respondents in states without a MUL in effect report that their usage would increase if such a law were enacted. Seat belt usage is reported higher among respondents who believe the law is being strictly enforced, and is also reported higher in states where there is a fine for non-compliance.

IS THE U.S. PUBLIC AWARE OF MANDATORY USE LEGISLATION IN THEIR STATE?

The U.S. public is generally aware of the MUL in their state--the highest awareness is in states with a MUL with a fine and the lowest is in states with child passenger safety laws only. Table 4-1 shows the percentages of respondents who were aware of the adult and child mandatory use laws in states with (a) adult and child laws in effect (MUL In Effect), and (b) child laws only in effect (MUL Not In Effect). The findings for MUL In Effect states are shown separately for those states whose MULs include (Fine states) or do not include (No Fine) a fine for noncompliance. Additionally, the findings for MUL Not In Effect states are shown separately for states in which an adult law was passed but is not yet in effect (Passed states) and ones in which no such law has to date been passed (Not Passed states).[1]

Is the Public Aware of Adult Mandatory Use Laws?

Awareness of adult safety belt usage laws was widespread in states where the law was in effect (see Table 4-1).

- 95 percent of respondents in states where adult laws had been implemented were aware of adult safety belt laws. The rate of awareness was:
  - 96 percent in MUL Fine states, and
  - 89 percent in MUL No Fine states.

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[1] Readers should be cautioned, however, that the sample sizes in MUL states without fines (n = 70) and in states that have passed by not yet implemented MULs (n = 60) are quite small, so that findings from those areas, while suggestive, may be unreliable.

TABLE 4-1

AWARENESS OF MUL BY MUL STATES

RESPONDENT AWARENESS	MUL IN EFFECT		MUL NOT IN EFFECT	
	With Fine (502)	No Fine (70)	Passed (60)	Not Passed (575)
Not Aware of Any MUL	1%	6%	15%	19%
Aware of Child MUL Only	3	4	46	61
Aware of Adult MUL Only	6	4	2	1
Aware of Adult and Child MUL	90	85	37	19
TOTAL AWARE OF ADULT MUL	96	89	39	20

However, in states where the law had been passed but was not yet in effect only 39 percent of respondents were aware of adult safety belt laws. Twenty percent of respondents incorrectly said that they were aware of adult laws in states that had not passed MULs.

The level of awareness of adult safety belts laws in MUL in Effect states (95%) was similar to the rate of 98 percent reported by adults in MUL states in a national survey that was conducted in December 1985 for Traffic Safety Now (Nordhaus, 1986).

Is the Public Aware of Child Safety Seat Laws?

Since all 50 states have child safety seat laws, it is interesting to note that awareness of child laws was higher in states that also had adult safety belt use laws in effect:

- 92 percent of respondents in states that had implemented adult MULs were aware of child laws;
- Only 80 percent of respondents in states without adult MULs in effect reported that they were aware of child laws.

- In households with preschool children, the proportion of respondents who said they Almost Always used child safety seats was higher in states where adult MULs were in effect (76%) than in states where MULs had not been implemented (68%).

Does Awareness of Laws Vary by Current Safety Belt Usage?

Table 4-2 shows the extent of reported awareness of adult and child laws within MULs In Effect and MULs Not In Effect states by respondents who reported varying levels of current safety belt usage. These findings were as follows:

TABLE 4-2

AWARENESS OF LAW BY LAW IN EFFECT AND NOT IN EFFECT AND SAFETY BELT USAGE

AWARENESS OF LAW	ADULT & CHILD LAW IN EFFECT				CHILD LAW ONLY IN EFFECT			
	Rarely (87)	Long-Trip (148)	Almost Always (331)	p	Rarely (217)	Long-Trip (214)	Almost Always (179)	p
Not Aware	5%	1%	1%		18%	17%	20%	
Child Law Only	2	5	2		59	63	58	
Adult Law Only	9	10	4		< 1	1	2	
Adult and Child Law	85	84	93	*	22	19	20	

*Significant to .05 level.

Adult and Child Law In Effect

- Respondents who reported that they always used safety belts indicated greater awareness of both adult and child laws (Almost Always users - 93%, Long-trip users - 84%, and Rarely users - 85%).

Child Law Only In Effect

- No significant differences in awareness of the laws were found between groups which differed in reported safety belt usage.

DOES THE U.S. PUBLIC SUPPORT ADULT MANDATORY USE LAWS?

How Does Public Support for MULs Vary By Presence or Absence of a MUL?

Where a MUL was in effect, respondents who said that they were aware of the law were asked the extent to which they were in favor of or opposed to it. Respondents who were not aware of such a law were asked the extent to which they would be in favor of or opposed to such a law if it were implemented. The results shown in Table 4-3, were as follows:

- Within MUL In Effect states, 80 percent of the population was in favor of the existing MULs (62% strongly favor) compared to 19 percent opposed (12% strongly opposed) to the MUL. There were no significant differences between Fine and No-Fine states so the presence or absence of a fine was not related to the level of support.

- Within MUL Not In Effect states, 74 percent of respondents supported the implementation of a MUL (46% strongly favor) compared to 26 percent who were opposed (11% strongly opposed). The findings were similar in states that had not passed MULs and in states that had passed but not yet implemented a MUL.

TABLE 4-3

SUPPORT FOR (PROPOSED) LAW

AMOUNT OF SUPPORT	MUL IN EFFECT			MUL NOT IN EFFECT		
	With Fine (491)	No Fine (61)	Total (552)	Passed (32)	Not Passed (450)	Total (482)
Strongly Favor	62%	63%	62%	50%	46%	46%
Somewhat Favor	19	16	18	25	28	28
Somewhat Oppose	8	5	7	18	15	15
Strongly Oppose	12	16	12	8	12	11

Respondents in MUL Not in Effect states were also asked about their support for a law if it were to be implemented with a $25 fine for not wearing seat belts. The results were as follows:

- 61 percent of all respondents favored (38% strongly favor) compared to 29 percent opposed (24% strongly oppose).

- The majority of Almost Always (85%) and Long-Trip users (64%) favored a law with a $25 fine, while only 39 percent of the Rarely users favored it.

- More females (65%) indicated that they would be in favor of the law if it were to be implemented with a $25 fine than males (56%).

Does Support for MULs Vary by Population Subgroups?

Differences in support for MULs was significant for education and safety belt usage subgroups. In MUL in Effect states a majority of all subgroups strongly favored the MUL, ranging from 73 percent of college graduates to 54 percent of less educated respondents; in MUL Not in Effect states the percent ranged from 59 percent of college graduates to 42 pecent of the less educated. However, support for MULs differed significantly among safety belt user groups.

As shown in Table 4-4, more frequent users favored MULs considerably more than less frequent users. Note particularly that Rarely users opposed the MUL more strongly in MUL in Effect states than in MUL Not in Effect states--implementation of the law apparently increased their opposition or only the hard core non-users remained Rarely users after the law.

TABLE 4-4

PERCENT FAVORING OR OPPOSING MANDATORY USE LAWS BY MUL IN EFFECT AND SAFETY BELT USAGE

SUPPORT FOR (PROPOSED) LAW	MUL IN EFFECT			MUL NOT IN EFFECT		
	Rarely	Long-Trip	Almost Always	Rarely	Long-Trip	Almost Always
Strongly Favor	17%	54%	78%	18%	53%	74%
Somewhat Favor	18	28	14	39	23	18
Somewhat Oppose	17	7	5	21	15	7
Strongly Oppose	48	11	4	22	9	2

Comparative Findings

Other surveys have found that support for MULs remains high in states that have passed such legislation. For instance, a December 1985 survey sponsored by Traffic Safety Now found that 76 percent of people who said

their state currently had a law favored its continuation. Similarly, support for legislation in New York State remained high after implementation of the law; in October 1984, before the law was implemented, 64 percent of drivers favored the law, compared to 65 percent in March 1985 and 71 percent in September 1985 after the law had become effective (ITSMR, 1985).

What Reasons Does the Public Give for Favoring or Opposing MULs?

Table 4-5 shows the reasons given for favoring or opposing adult safety belt usage laws in MUL in Effect and MUL Not in Effect states. The percentages below are based on all respondents in each of these two types of states. (Similar reasons for favoring or opposing the MULs were found in Fine and No Fine states.) The most frequently mentioned reasons for favoring the law concerned safety; those given for opposing the law concerned infringement of rights.

TABLE 4-5

MOST FREQUENT REASONS FOR FAVORING OR OPPOSING MUL BY MUL IN EFFECT AND NOT IN EFFECT

REASONS	MUL IN EFFECT	MUL NOT IN EFFECT
For Favoring:		
Saves Lives	64%	60%
Protect Me/My Family	15	4
Make People Safety Conscious	10	12
For Opposing:		
Infringement of Rights	14	17
Generally Negative About Seat Belts	6	8

HOW DOES SAFETY BELT USAGE VARY BY STATUS AND TYPE OF MANDATORY USE LEGISLATION?

What Are the Differences in Safety Belt Use in MUL in Effect and MUL Not in Effect States?

Reported usage of safety belts by respondents in MUL in Effect states was markedly greater than that for MUL Not in Effect states. Almost twice as many respondents in MUL in Effect states reported being Almost Always users compared to MUL Not in Effect states, and more than twice the

proportion of respondents in MUL Not in Effect states reported being Rarely users.

See Table 4-6 below for a more detailed breakdown of reported safety belt usage by MUL status.

TABLE 4-6

REPORTED SAFETY BELT USAGE (SHORT AND LONG TRIPS) BY MUL IN EFFECT AND NOT IN EFFECT STATES

REPORTED SAFETY BELT USAGE	MUL IN EFFECT			MUL NOT IN EFFECT		
	With Fine (508)	No Fine (68)	Total	Passed (59)	Not Passed (573)	Total
Almost Always	60%	46%	58%	30%	30%	30%
Long-Trips	25	34	26	33	35	35
Rarely	15	19	16	37	35	35

Population Subgroup Findings:

The percentages of respondents within selected subgroups who reported that they used seat belts "almost all of the time" reported for MUL in Effect and MUL Not in Effect states are shown in Table 4-7. In all subgroups, reported safety belt usage was significantly greater in states with MULs in effect.

Comparative Findings

These differences are consistent with findings from other studies. For instance, in New York State the proportion of respondents who said they always wore safety belts went from 29 percent to 67 percent after the law was implemented. Observed daytime usage went from 16 percent to 57 percent over the same time period (ITSMR, 1985).

What Are the Differences in Safety Belt Usage in MUL Fine and No-Fine States?

In MUL in Effect Fine states, reported usage was substantially greater than in the No-Fine states, as follows:

- MUL Fine. Almost Always (60%), Long-trip (25%), Rarely (15%).

- MUL No-Fine. Almost Always (46%), Long-trip (34%), Rarely (19%).

(See Table 4-6 for a more detailed breakdown of safety belt usage.) The presence of a fine for non-compliance appears to have a positive effect on reported safety belt usage.

TABLE 4-7

REPORTED SUBGROUP USAGE BY MUL STATUS

SUBGROUP	PERCENT REPORTING ALMOST ALWAYS USING	
	MUL Not In Effect	MUL In Effect
GENDER:		
Male	28%	54%
Female	31	62
AGE:		
18-29	27%	46%
30-39	37	61
40-59	32	63
60+	23	63
EDUCATION:		
Non-H.S. Grad.	15%	50%
H.S. Grad.	23	55
Some College	32	58
College Grad.	47	67
AREA:		
Rural	19%	54%
Small Town	24	51
Suburban	38	58
Urban	35	65
CAR TYPE:		
Compact	38%	66%
Non-Compact	28	56
CAR ORIGIN:		
Foreign	44%	62%
U.S.	27	57
MARITAL STATUS:		
Married	31%	61%
Single	27	54
TOTAL:	30%	58%

Are There Differences in Safety Belt Usage in MUL Passed (But Not in Effect) and Not Passed States?

There are no differences in the extent of reported usage in states where a law was passed (but not yet in effect) versus those where MULs had not been passed. States can expect that a MUL will have little impact on safety belt usage until the law becomes effective.

What Are the Predictors of Usage in MUL in Effect and MUL Not in Effect States?

Multivariate prediction was used to develop a profile of individuals who were likely or unlikely to use manual safety belts. These analyses (shown in Tables 4-8 and 4-9) found that:

- States where MULs were in Effect, usage was higher among older individuals who drove/rode in smaller cars (compact and subcompacts).
- In states without MULs in Effect, usage was higher among better educated individuals who drove/rode in smaller cars.
- In both MUL and non-MUL states, once these demographic characteristics were considered, lower usage was predicted by the beliefs that automatic belts--and by inference manual belts--(1) were a nuisance, and (2) might trap people in an accident.

TABLE 4-8

PREDICTORS OF REPORTED SAFETY BELT USE IN STATES WITH MULs IN EFFECT

Variable	Beta	F
Age	.110	6.9
Compact Car	.087	4.4
Nuisance	- .364	58.8
Might Trap	- .091	3.7
n = 493		
Adjusted R^2 = 17.8%		

TABLE 4-9

PREDICTORS OF REPORTED SAFETY BELT USE IN STATES WITHOUT MULs IN EFFECT

Variable	Beta	F
Education	.184	22.1
Compact Car	.089	5.3
Nuisance	- .352	68.7
Might Trap	- .101	5.7
n = 523 Adjusted R^2 = 22.3%		

Comparative Findings

Impact on Reported Use. A national telephone survey in December 1985 found significant differences in reported use of safety belts in states where MULs were In Effect or Not in Effect (Nordhaus, 1986). In the Nordhaus survey, differences between states with MULs in effect and states without MULs were found for the proportion of respondents who reported that they (1) wore safety belts during their last trip (71% vs. 4%), (2) "Always" wore safety belts (44% vs. 21%), or (3) wore safety belts "Most of the Time" or "Always" (77% vs. 45%). While these questions are not directly comparable to the ones used in this survey, the magnitude of the differences are similar. For instance, this survey found that respondents who reported that they wore safety belts "Most of the Time" or "Almost All the Time" on short trips was 72 percent in states with MULs In Effect compared to 45 percent in states where MUL were Not in Effect.

The Nordhaus survey also found that reported use was higher in states that had passed but not yet implemented MULs (e.g., 30% reported always wearing safety belts) than in states where MULs had not been enacted (21% reported always wearing safety belts). These differences were not significant in the current survey, and we suspect that this discrepancy may be due in part to differences in timing. The Nordhaus survey was conducted in late December 1985, when a number of large states anticipated implementation of MULs the following month. This survey was conducted in February 1986, when the states that had passed MULs were not expected to implement their laws for several months in the future.

In New York State (as shown in Table 4-10), surveys by Clark, Martire, and Bartolomeau and the Institute for Traffic Safety Management and Research (ITSMR) have found that the percent of drivers reporting that they

"always" wear safety belts increased from 29 percent in October to 64 percent in January, 67 percent in March and 63 percent in September following implementation of the law in January 1985. The proportion of drivers who reported that they "never" wear safety belts decreased from 32 percent in October to 3 percent in January and 6 percent in March.

The reported increase in use of safety belts is attributed to the legislation. In the March ITSMR survey, 65 percent of respondents reported that they wear safety belts more often now; 55.6 percent reported that they just started wearing safety belts within the last year; and 52.1 percent of those respondents said that the reason they started wearing safety belts was because of the new law.

Compliance with the new legislation increased with age; 62 percent of respondents age 16-34, 65 percent of respondents age 35-54, and 76 percent of respondents age 55 and older reported always wearing their safety belts.

TABLE 4-10

REPORTED AND OBSERVED FREQUENCY OF SAFETY BELT USE IN NEW YORK STATE

REPORTED FREQUENCY OF USAGE	OCTOBER 1984 (n = 1,000)	JANUARY 1985 (n = 1,156)	MARCH/APRIL 1985 (n = 1,000)	SEPTEMBER 1985 (n = 1,000)
ALWAYS	29.0%	64%	66.9%	62.5%
MOST OF THE TIME	16.6%	24%	17.3%	19.0%
SOMETIMES	22.4%	7%	9.6%	12.1%
NEVER	32.0%	3%	6.2%	6.4%
OBSERVED DAYTIME USAGE	(n = 42,201) 15.9%	-	(n = 42,842) 57.1%	(n = 34,613) 46.0%

Sources: October 1984, March 1985 and September 1985 telephone surveys were conducted by ITSMR. The January 1985 telephone survey was conducted by Clark, Martire, and Bartolomeau. The observational data in October 1984, April 1985, and September 1985 were collected by ITSMR.

Resistance to the use of safety belts in New York State was highest among males (7.8% of men, compared to 4.8% of women, reported never wearing safety belts) and among younger drivers (15.7% of respondents age 16-24 and 11.9% of respondents age 25-34 reported never wearing safety belts, compared to 7% of respondents age 35 and older).

Impact on Observed Use

The reported increased usage of safety belts in this survey are similar in direction to what has been observed in other surveys. In New York State, observed daytime use of safety belts among large random samples went from 16 percent in October 1984 to 57 percent in April 1985, after New York State implemented mandatory use laws. By September 1985, observed daytime usage rates had declined somewhat to 46 percent (ITSMR, 1986).

In Michigan, a statewide observational study of 20,023 occupants in 12,253 cars and light trucks between July 17 and August 5, 1985 (Wagenaar and Wiviott, 1985) found that overall use of safety belts increased from 20 percent in December 1984, to 26 percent in April 1985 (after enactment but before implementation of the law) to 58 percent in July 1985, the month the legislation went into effect.

All age groups in Michigan showed significant gains in restraint use after the law took effect, though the largest change was found among occupants age 60 and older. Among older occupants, restraint use rose from 15 percent in December to 22 percent in April (the lowest use of any age group), to 66 percent in July. Among other age groups, the use of safety belts increased between April to July from 23.0 percent to 53.2 percent among occupants age 16 to 29, and from 25.9 percent to 61.8 percent among occupants age 30 to 59.

Females continued to have a higher rate of restraint use than men, but the rate of increase was similar among the two groups. Between April and July, restraint use among females increased from 28.5 percent to 62.5 percent compared to an increase among males from 23.4 percent to 54.9 percent. These findings are similar to those of the current survey.

Michigan's safety belt law applies only to front seat passengers so as might be expected, the use of safety belts among front seat adults rose from 24.7 percent in April to 60.5 percent in July, while the use of safety belts increased from 9.7 percent to only 18.6 percent of adults in rear seats.

DOES THE U.S. PUBLIC THINK MULs ARE STRICTLY ENFORCED IN THEIR STATE?

Overall Perception

Table 4-11 shows the percentages of respondents in MUL in Effect states who indicated the extent to which they felt that the law was being

stricly enforced. A little over half (53%) believed the law was being enforced strictly; 9 percent thought it was not being enforced at all.

TABLE 4-11

RELATIONSHIP BETWEEN PERCEIVED ENFORCEMENT AND USE OF SAFETY BELTS IN STATES WITH MULs IN EFFECT

CURRENT REPORTED SEAT BELT USAGE	PERCEPTION OF ENFORCEMENT			
	VERY STRICT (78)	SOMEWHAT STRICT (190)	NOT VERY STRICT (190)	NOT AT ALL STRICT (45)
Almost Always	71%	63%	55%	48%
Long-Trip	20%	24%	31%	28%
Rarely	9%	13%	14%	24%

NOTE: A Chi-square test found that these differences were significant at a .01 level.

Does the Perception of Strictness of Enforcement Vary by the Inclusion of a Fine?

The differences in perceived level of strictness of enforcement in states with a MUL with a fine and those with no fine were not not significant.

How Does Perceived Strictness of Enforcement Affect Safety Belt Usage?

Within MUL states (as shown in Table 4-11), reported use of manual safety belts was significantly higher among respondents who perceived that MULs were strictly enforced:

- 71 percent of respondents who believed that laws were very strictly enforced reported that they almost always wore safety belts (and only 9%.reported that they Rarely wore safety belts);
- Only 48 percent of respondents who believed that MULs were not enforced reported that they Almost Always wore safety belts (while 24% reported that they Rarely wore safety belts).

This is consistent with the finding that the proportion of respondents who said that they Almost Always used safety belts was significantly higher in states where there was a fine (60%) than in MUL states without a fine (46%).

Comparative Findings

The perception of enforcement was also related to belt usage in a survey of New York State adults (ITSMR, 1985). In March 1985, 75.3 percent of adults in New York State who believed that belt laws were strictly enforced reported that they always wore belts, compared to only 57.1 percent of respondents who perceived that MULs were not strictly enforced.

Enforcement of the laws appeared to be an important element in continued usage outside of the United States as well. In Switzerland where the law, enacted in 1976, was repealed in 1977, the rates of use in urban areas went from 19 percent in 1975 to 75 percent and back to 30 percent after repeal. In rural areas the rates of use went from 35 percent to 81 percent and back down to 60 percent after repeal. This suggests that enforcement of mandatory use laws is necessary to reinforce high levels of usage. This is one of the reasons Switzerland reenacted mandatory use laws in 1980 (Grimm, 1984).

A study conducted in Ottawa, Canada (Jonah, Dawson, & Smith, 1982) also illustrates the importance of enforcement of mandatory use laws. The study worked with local police departments to provide heavy enforcement of safety belts laws for one week, accompanied by mass media publicity on the enforcement program and educational programs on the benefits of safety belt use. Safety belt use went from 58 percent during the pre-enforcement baseline period to 80 percent during the enforcement period and dropped to 70 percent six months later.

WHAT IS THE EXPECTED SAFETY BELT USAGE IN STATES WHICH CURRENTLY HAVE NO MUL IF MULs WERE IMPLEMENTED?

U.S. Population

Respondents who were unaware of an adult MUL in their state were asked to indicate the extent to which they would use seat belts if their state had a seat belt law. The result indicated a high level of anticipated com pliance with the law. According to reports from respondents, implementation of a MUL would have a significant impact on their use of seat belts. Around 30 percent of respondents living in states with no MUL in Effect report currently using their seat belts Almost Always. However, 59 percent said they would wear their seat belt Almost Always if a MUL were enacted; only 7 percent said Rarely or never. As show in Table 4-12, the anticipated increase in seat belt usage varies considerably by respondents' current use: 37 percent of those who rarely use a seat belt currently believe they

will continue to wear it only sometimes, rarely or never, compared to only 1 percent of Almost Always users and 10 percent of Long-trip users. However, it is encouraging that 63 percent of the Rarely users estimated significantly increased use of safety belts. (While over-reporting can be assumed in this figure, there is at least an indication that a MUL would have an effect in increasing safety belt use).

TABLE 4-12

IN MUL NOT IN EFFECT STATES, EXPECTED USAGE IF MUL WERE IN EFFECT BY CURRENT SEAT BELT USE

EXPECTED SEAT BELT USAGE	SEAT BELT USAGE			
	Almost Always (138)	Long-Trip (163)	Rarely (165)	Total (466)
Almost Always	90%	56%	38%	60%
Most of the Time	10	35	25	24
Only Sometimes	0	9	19	10
Rarely	< 1	< 1	9	3
Never	0	0	9	3

Population Subgroup Findings

- Demographic Subgroups. More females (65%) than males (53%) said that under MULs they would use seat belts almost all the time; more College Graduates (74%) than lesser educated groups (54% - 57%) said that they would use seat belts almost all the time.

- Current Safety Belt Usage. As might be expected, respondents who report more current usage indicated that under a MUL they would anticipate using seat belts more frequently than those who report less current usage, ranging from 90 percent of Almost Always users to 38 percent of Rarely users, with Long-Trip users in-between with 55 percent.

SECTION FIVE

SURVEY IMPLICATIONS FOR OCCUPANT PROTECTION PROGRAMS

INTRODUCTION

This section presents an integrated discussion of the implications of this survey for programs to promote the use of occupant protection systems. Specifically, this section focuses on three components that are necessary for planning effective occupant protection programs:

- Identification of information/program needs;
- Identification of target audiences--those groups in need of specific programs or information; and
- Development of program/message strategies--identification of types of programs and effective ways to promote these programs with specific target audiences.

This section presents a summary of survey findings and discusses strategies for promoting the acceptance of automatic safety belts and air bags. Because these issues cannot be treated effectively in the absence of information about the acceptance of manual safety belts and the influence of Mandatory Usage Legislation (MULs), those issues are discussed as well. Accordingly, the section opens with discussions of the acceptance of automatic belts and air bags and then moves to a discussion of MULs. Where appropriate, recommendations for further research are also presented.

ACCEPTANCE OF AUTOMATIC BELTS

General Acceptance

At the current time most respondents prefer manual to automatic safety belts; this is true of both the general public and for respondents who rarely used manual safety belts:

- 60 percent of all respondents and 62 percent of Rarely users said they preferred manual belts to automatic safety belts;
- 30 percent of all respondents and 42 percent of Rarely users said that if the vehicle they wanted came with automatic safety belts, they would be less likely to buy it; and
- 54 percent of all respondents and 68 percent of Rarely users said they would not agree to pay as much as the cost of a standard AM radio for automatic seat belts.

Substantial numbers of respondents said that they would unbuckle or permanently disconnect automatic safety belts; again this rate is particularly high among Rarely users:

- 39 percent of all respondents and 67 percent of Rarely users said that they would be likely to unbuckle automatic belts; and

- 19 percent of all respondents and 34 percent of Rarely users said that they or someone in their household would be likely to permanently disconnect automatic belts.

Clearly, then, there is a need for substantial public information and education activities if automatic safety belts are to be accepted and used. The remainder of this section offers suggestions about how to plan such an effort.

Factors Influencing Acceptance

The reason for the low acceptance of automatic safety belts stems from a number of sources that could be addressed in public education efforts:

- Respondents were unfamiliar with automatic safety belts. Nearly 60 percent of respondents in this survey reported that they had not heard of automatic safety belts. This lack of awareness identifies the need to provide factual information that can increase understanding and acceptance of automatic belts. In this regard, it is noteworthy that acceptance of automatic safety belts was greater among respondents who had heard about them; it was highest among those who reported having ridden in a car equipped with automatic safety belts, suggesting that exposure to automatic safety belts would further their acceptance.

- Respondents had concerns about automatic safety belts. This survey found that 71 percent of respondents agreed that automatic safety belts were so complicated that they might break down, and 66 percent agreed that automatic safety belts might trap people in an accident. Respondents also mentioned these concerns the most frequently in response to questions about the good and bad points of automatic systems. These concerns, however, were not nearly as strong among respondents who said they had ridden in a car that had automatic safety belts.

Respondents wanted information on these topics. When asked about what information they would like to have about automatic safety belts, the most frequently mentioned issues were information about how the belts work mechanically, test results, consumer reports, and statistics about how well they work. This provides an opportunity to present factual information that can correct misconceptions about automatic belts and explain how they work.

On the positive side, respondents believed that automatic safety belts would reduce injury. When prompted, respondents also agreed that they would feel better knowing that their family would always have some protection in an accident. It is of interest, however, that family protection was rarely mentioned spontaneously, which suggests this is an attitude that might be brought nearer the forefront of awareness by effective public education.

Finally, respondents agreed that automatic safety belts would not require having to remember to buckle. This may be a particularly useful selling point with Long-trip (occasional) safety belt users.

Individuals Who Prefer Automatic Safety Belts

The respondents most likely to prefer automatic safety belts were individuals, particularly in MUL states, who used manual safety belts on long but not on short trips. These respondents were generally younger (age 18 to 29). One suggestion is that initial efforts to promote automatic safety belts might do well to encourage their use among people most likely to be receptive to them. This is because we anticipate that the task of convincing others (e.g., Rarely users) to accept automatic safety belts may be easier once more people gain exposure, and talk up the system with others.

The main selling point with individuals who prefer automatic safety belts appears to be the belief that automatic safety belts would not require remembering to buckle or unbuckle (79% strongly agreed).

Respondents who preferred automatic safety belts believed that automatic safety belts would reduce injury and provide good family protection. They also believed that automatic safety belts were comfortable to wear, and would not make it difficult to get in and out of the car. These themes may be important to reinforce.

The major concerns among respondents who preferred automatic safety belts were that automatic safety belts were so complicated that they might break down and that they might trap people if there were an accident. Engineering data that depicts how infrequently automatic safety belts break down and how easy they are to unbuckle may help address these concerns. Testimonials from individuals who were saved from serious injury and were not trapped may also be helpful.

Individuals Likely to Subvert Automatic Safety Belts

Respondents likely to unbuckle or permanently disconnect automatic belts tended to be Rarely users of manual belts who were younger, and less educated, and living in states with no MUL in effect. These respondents were also less likely to purchase automatic safety belts.

Several beliefs tended to characterize individuals likely to subvert automatic safety belts:

- They were less convinced that automatic safety belts would reduce injury or provide protection for family members;

- They thought that automatic safety belts would be uncomfortable and a nuisance to wear just on short trips; and

- They were worried that automatic safety belts would trap people in an accident.

Program Implications

A combination of enforcement practices and public information and education activities would seem important in promoting acceptance and use of automatic safety belts among this group.

- Mandatory Usage Laws. Automatic safety belts were preferred as much in MUL states as they were in non-MUL states, and respondents indicated that they would be less likely to unbuckle them in states where MULs were in effect. Hence, one way to improve the proper use of automatic safety belts may be through the implementation and enforcement of MULs.

- Enforcement and Publicity About the Enforcement of MULs. Enforcement and publicity of enforcement by local police groups should encourage the use of safety belts on short trips and thereby encourage the acceptance and use of automatic safety belts.

- Periodic Vehicle Inspections. A substantial number of people (19% of the U.S. population and 29% of Rarely users) report that they or someone in their household would try to permanently disconnect automatic safety belts. Therefore, it may be important to require those states that have periodic vehicle inspections check that automatic safety belts are in working order and publicize that cars with inoperable safety belts will not pass inspection. Police and inspection personnel wold also have to be trained in detecting how automatic systems could be permanenly disconnected.

- Well Engineered Automatic Belt Systems. A factor in the acceptance of automatic safety belts will be the engineering of automatic safety belt systems. Automatic safety belt systems that are comfortable and that make it easy to enter and exit will be critical to promoting acceptance of the systems and reducing the likelihood of disconnecting the systems.[1]

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[1] In this light, it is instructive that the 22 percent disconnect rate of automatic safety belts in Chevettes (compared to 5% in Rabbit's and Toyota's) may be due in part to the fact that 66 percent of Chevette owners complained that the belt interfered with getting into or out of the car, and 40 percent said that the belt rested or rubbed on their face or neck (NHTSA, 1984).

- Effective Public Information and Education. Another component of an effort to reduce the level of disconnection of automatic safety belts will be an effective public information and education effort. Messages should emphasize:

  (1) The reliability of automatic safety belts. Since many people think that automatic safety belts would not work, testimonials/ data from engineering experts on how well they work and from people who have used the older automatic systems for at least a year should be helpful;

  (2) How easy automatic safety belts are to use and the fact that they can be disconnected if the need arises; and

  (3) The comfort and convenience of automatic safety belts;

  (4) Their effectiveness in reducing injury;

  (5) The fact that there is no basis for concerns about entrapment, reinforced by testimonials from individuals who have been saved in situations relatable to being trapped;

  (6) The value automatic safety belts have (e.g., convenience, family protection) for individuals who use manual safety belts.

ACCEPTANCE OF AIR BAGS

Factors in the Acceptance of Air Bags

Half of the respondents said that, if they were given the choice, they would select a rental car that came equipped with air bags and manual belts (compared to 37% who said they would pick a rental car that came with manual safety belts alone and 13% who would select automatic safety belts). On the other hand, only 28 percent would be more likely to purchase a car that came equipped with air bags, and only 33 percent of respondents said they would agree to pay as much as the cost of an AM-FM stereo radio/ cassette player for air bags.

Effectiveness. Respondents believed in the effectiveness of air bags:

- 91 percent of respondents believe that air bags reduce injury, and
- 66 percent believe that air bags were less likely to cause injury than manual belts.

Family Protection. Respondents also liked knowing that air bags would mean that family members would always have protection in case of an accident. However, as was the case with automatic belts, family protection was

rarely mentioned in response to questions about the good and bad points about air bags, so this may be a point that effective public education and information efforts might bring to the attention of the public. This message might be particularly effective with families of teenagers or families with concerns about the safety of members.

Barriers to Acceptance of Air Bags

Cost. The barriers to acceptance of air bags are threefold. First, and perhaps the most serious, is cost. While 57 percent of respondents said that they would agree to pay a minimal amount for air bags, only 33 percent of respondents said they would agree to pay as much as the cost of an AM/FM stereo radio/cassette player. If the cost is higher than this (and it is more than twice as expensive on the vehicles where driver side air bags currently are available as an option), it is likely that the proportion of people who would agree to purchase air bags could be much smaller than this.

The issue of replacement cost will need to be addressed if acceptance of air bags is to increase. Substantial numbers of respondents wanted information about the initial and replacement costs of air bags and mentioned initial cost and replacement cost as bad points about air bags. Awareness of cost issues may be growing as the issues of replacement cost were almost never mentioned in a 1978 survey (Hart, 1978). The issue will require information about such things as (1) the proportion of accidents where air bags are deployed (in many low speed accidents air bags do not deploy), (2) the proportion of accidents in which a vehicle is able to be repaired, (3) the cost of replacing air bags, and (4) insurance practices in covering these replacement costs. When this information becomes available it will be important to disseminate.

Concerns About Air Bags. Respondents were concerned that air bags might fail to work when they should. NHTSA should use its extensive data on how reliable air bags have been. Respondents asked for information about how air bags work, and data on how effective they were.

There is also fairly widespread concern that air bags might inflate by mistake; 81 percent of respondents shared this concern, and it was also the most frequently mentioned bad point (other than cost) about air bags.

Concerns that air bags might inflate by mistake were coupled with the belief that deployment would be dangerous. Respondents believed that a driver couldn't see and would lose control of a vehicle once an air bag deployed. The data NHTSA has been collecting from accident investigations of air bags deployments in regular vehicles and police vehicles should be sufficient to refute these concerns. These data can provide important support for pubic information and education efforts to correct misconceptions about the reliability and effectiveness of current air bag systems.

Limitations. Finally, it will be important to develop a careful balance in discussing the limitations of air bag systems.

- Air bags do not provide adequate protection in rear-end, side, or roll-over crashes--a fact that is recognized by only 71 percent of respondents. It should be pointed out that those who preferred air bags thought that they were more effective in providing rear-end, side and roll-over protection.

The challenge here is that people who recognize the limitations of air bags were less willing to purchase air bags. On the other hand, people who recognized the limitations of air bags were more likely to wear lap belts for additional protection in air bag-equipped cars. Therefore, an unrealistically positive portrayal of air bags might discourage the use of lap belts. Conversely, an unrealistically negative portrayal of air bags would limit the the public's acceptance of them. An appropriate educational strategy here would be to (1) present the positive aspects of air bags, namely, that they provide extra protection when used in combination with manual safety belts, and (2) to provide information which refutes the negative misconceptions that are widely held about them by the public.

Target Audiences

The acceptance of air bags tended to be higher among individuals who were:

(1) 30 to 39 years of age

(2) Married

(3) Living in households with teenagers, and

(4) More likely to wear safety belts.

Given the cost barriers that exist in adoption of air bags, it may be the positive group that should be the initial target of efforts to promote the purchase of air bags. After an initial group had adopted air bags, publicity surrounding their effectiveness may then be appropriate to use in directing efforts to the harder-to-convince audiences.

Program Strategy

The major selling point for air bags (the strongest predictors of acceptance) are the beliefs that air bags reduce injuries and that air bags provide family protection.

To gain additional acceptance of air bags, people must be convinced that air bags would not inflate by mistake and that there are no adverse consequences of deployment (e.g., air bags hitting too hard, blocking vision, or causing the driver to lose control of the car). Existing accident investigation data, if properly promoted, should help overcome these misconceptions.

Finally, it should be noted that preference for air bags was higher among people who were less aware of the fact that air bags don't work in all types of crashes. It is important to convey this informtion because recognition of this fact is related to greater likelihood of wearing lap belts for full protection in a car equipped with air bags. At the same time, information about the limitations of air bags should be conveyed along with the advantages of air bags in conjunction with safety belts.

Two major advantages of air bags should be stressed. The first is the value of air bags in protecting individuals who either do not always remember to wear manual safety belts or who have others in their family, such as teenagers, who may not always wear safety belts. The second is that air bags provide additional protection over and above what can be obtained from manual safety belts alone. NHTSA reports that the rate of serious injuries is about 5 percent lower among people who have air bags and wear safety belts than among people wearing safety belts alone (NHTSA, 1984). The challenge is to translate these advantages into concrete forms that would be convincing to purchasers that they are worth the additional expense.

MANDATORY USAGE LEGISLATION

Support for MULs

There is fairly wide support for adult safety belt use laws.

In Non-MUL States: (1) 73 percent of respondents favored MULs; (2) 60 percent of respondents favored a $25 fine for failure to wear safety belts; and (3) 83 percent of respondents said they would wear safety belts most of the time (60% said almost all the time) if MULs were implemented in their state.

In MUL States: Eighty percent of respondents favored adult safety belt use laws in states where MULs had been implemented. Surveys in New York found that support for the state's adult usage law increased somewhat (from 64% to 71%) after the law had been in effect for a year.

Support is not uniformly positive: Rarely users of manual safety belts dislike MULs. Forty-eight percent of infrequent users in MUL states (and 22% of infrequent users in non-MUL states) were strongly opposed to adult safety belt use laws. The reason most frequently given for opposing MULs was a sense of infringement on one's rights. However, among people who comply with MULs (even respondents who wear manual safety belts mostly on long trips) support for MULs is very high (82% of mostly Long-trip users and 92% of Almost Always users favored the MUL in their state).

Awareness of MULs. There was widespread awareness of adult safety belts laws: 95 percent of respondents were aware of adult safety belt laws in states where MULs had been implemented.

There was also higher recognition of child safety seat laws in states which had implemented adult laws (92%), than in states where adult laws

were not in effect (only 80% of respondents were aware of child laws in those states). Among families with preschool children, the proportion of repondents who said that they almost always used child safety seats was higher in states that had implemented adult safety belt use laws (76%) than in states that did not have MULs in effect (68%).

Impact of MULs

The heartening finding in this survey, one which has been confirmed in observational studies, is that adult safety belt usage laws have a dramatic impact on use of manual safety belts:

- 58 percent of respondents in states with MULs in effect reported that they almost always used manual safety belts, compared to only 16 percent who reported that they never, rarely, or only sometimes used them.

- By comparison, only 30 percent of respondents in states where MULs were not in effect reported that they almost always used safety belts, while 36 percent reported that they never, rarely, or only sometimes used them.

The differences between states where MULs were or were not in effect were particularly great for groups which have been difficult to reach through traditional public education approaches, including:

- Older Respondents. Among respondents 60 years and older, the proportion who reported almost always using safety belts was 63 percent in states where MULs were implemented, compared to only 23 percent in states where MULs were not in effect;

- Rural Residents. Among respondents living in rural areas, the proportion who reported almost always using safety belts was 54 percent in states where MULs were implemented compared to only 19 percent in states where MULs were not in effect;

- Less Educated. Among respondents with no more than a high school education, the proportion who reported almost always using safety belts was 54 percent in states where MULs were implemented, compared to only 21 percent in states where MULs were not in effect.

Two major conclusions might be drawn from these findings:

- First, given the impact of MULs on reported usage, it will be useful to encourage the passage of adult safety belt usage legislation in states where MULs have not yet been implemented.

- Second, there is a need for continued encouragement of compliance with adult safety belt usage laws in states which have implemented MULs. Despite dramatic gains, the reported rates of usage in MUL

states is still considerably lower than in most European countries such as Great Britain (where observed usage is 95 percent).[2]

Importance of Fines

Reported use of safety belts was 60 percent in states with a fine for non-compliance with MULs, compared to only 46 percent in states without a fine.

Importance of Enforcement

Reported use of safety belts is related to the perception of enforcement. In states that had enacted MULs, the proportion of respondents who said they almost always used safety belts was:

- 71 percent among drivers who believed that MULs were very strictly enforced,
- 48 percent among drivers who believed that laws were not enforced.

Similar findings have been reported in surveys from New York State. Studies in Canada have also found that use is higher when MULs are more strictly enforced. These findings suggest that enforcement and perception of enforcement can play an important role in eliciting compliance with MULs. The fact that use is lower on short trips than on long trips also suggests that local police have an opportunity to play an important role in increasing compliance.

Rarely Users in MUL States

This survey identified two audiences in MUL states who should be the targets of special attention: (1) Rarely users, and (2) Long-trip users.

The implementation of MULs more than cut in half (from 36% to 16%) the proportion of people who reported that they rarely used safety belts. Rarely users in MUL states will be an important group for more intensive study.

Profile of Rarely Users in MUL States. This survey provided the following characteristics of Rarely Users in MUL States. Rarely users tended to be:

- Drivers or passengers in larger cars (mid- to full-size cars, vans or wagons);

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[2] Department of Transportation Press Notice 164 (UK) 5 April 1984.

- Less educated respondents; and

- Respondents 18 to 29 years of age, and 60 years and older.

(New York State surveys found that Rarely users were more likely to be men, drivers 16 to 24, and drivers with less than a high school education. This current survey replicated those findings for education, but did not find that their Rarely users were disproportionately men.)

Not surprisingly, this survey found that Rarely users in MUL states were more likely to believe that automatic belts--and by inference manual safety belts--were uncomfortable and that they might trap people in the vehicle in an accident. Almost half of Rarely users in MUL states were strongly opposed to adult safety belt usage laws.

Opinions of Rarely Users in MUL States. A more negative pattern of attitudes characterized Rarely users in states where MULs were in effect than in states where they were not. This may be because implementation of a MUL results in compliance among many previous non-users and leaves a hard core of Rarely users who strongly resist safety belts. The following attitudes characterized Rarely users in MUL states:

- 48 percent were strongly opposed to adult safety belt laws;

- 61 percent believed strongly that automatic belts--and by inference manual belts--could trap them in a vehicle in an accident; and

- Only 30 percent strongly agreed that automatic safety belts would reduce injuries.

It will be important to counter these first two points in developing public information and educational messages to address this audience. Because Rarely users tend to be less educated, messages on these issues should be simply expressed.

Rarely Users and Automatic Protection Systems. The irony is that the very same individuals who do not comply with MULs are also unresponsive to automatic protection systems.

- Rarely users are less likely and less able to pay for air bags.

  - 77 percent of Rarely users said they would not be willing to pay as much for air bags as the cost of an AM/FM radio/cassette player, and
  - Given their age (18-29, and 60 and older) and lower education, Rarely users may be less able to afford air bags.

- Rarely users were less willing to accept automatic safety belts.

  - 70 percent of Rarely users preferred manual to automatic systems,

- Only 25 percent of Rarely users agreed to pay as much as the cost of a standard AM radio for automatic safety belts.

- Rarely users were more likely to subvert automatic safety belts.

  - 83 percent of Rarely users said they would unbuckle automatic safety belts,
  - 42 percent of Rarely users said that it was likely that they, or someone in their household would try to permanently disconnect the automatic safety belts.

Rarely users in MUL states resisted both manual and automatic protection systems. This survey points to no easy educational strategy to reach this group. Rather, this survey suggests this group requires further study and focused intervention. Enforcement and publicity about the enforcement of MULs may also be important in increasing the compliance of this group.

Targetting Long-Trip Users

A second group may be a particularly promising target for public information and education efforts: individuals who reported that they mostly use safety belts on long trips but do not always use safety belts on short trips. Long-trip users comprised about a quarter of the population in MUL states. The Long-trip users were younger than the Almost Always users (36% of 18-29 year olds were in this group, compared to 21% of respondents 40 and older). This group may use safety belts when they perceive it to be convenient, but have not developed a habit of using safety belts all of the time. Because they view safety belts as increasing safety, they use safety belts at least some of the time. Efforts should be directed at reinforcing the safety factor of belts for shorter trips and for lower speed travel.

Message Strategies. Respondents in MUL states who principally used safety belts on long trips were similar to Almost Always users in the extent to which they believed that automatic safety belts--and by inference manual safety belts--(1) would reduce injuries; (2) would provide family protection; and (3) were comfortable to wear. This suggests that Long-trip users are already convinced of the benefits of belts in these areas. There is still a need to convince Long-trip users of the importance of using safety belts on short trips.

Long-trip users in MUL states were more likely than Almost Always users to believe that automatic belts--and by inference manual belts:

(1) might trap people in the vehicle in an accident, and
(2) were a nuisance to wear on short trips.

Again, those seem to be areas for further public information and education efforts.

Finally, Long-trip users did not believe that MULs were strictly enforced (54% of Long-trip users believed that MULs were not strictly enforced). Given the disparity between their reported use on long- versus short trips, it may be useful to emphasize enforcement by local police.

Preference for Automatic Safety Belts. Long-trip users, particularly in MUL states, may be a group that is likely to purchase automatic safety belts:

- 40 percent of Long-trip users in MUL states (compared to only 20% of Almost Always users) said they preferred automatic to manual safety belts.

- 52 percent of Long-trip users would agree to pay the cost of automatic safety belts.

The selling point for Long-trip users appears to be the convenience of automatic safety belts:

- More than other groups, Long-trip users (79%) strongly agreed that a good point about automatic safety belts is that they did not require remembering to buckle them.

Long-trip users agreed that automatic safety belts reduce injury, and provide good family protection; they disagreed that automatic safety belts are uncomfortable or would make it difficult to enter or exit from a car.

However, a sizable proportion of Long-trip users strongly believed that automatic safety belts were so complicated that they might break down (37%), or trap people in an accident (34%). These points should be addressed in promoting acceptance of automatic safety belts among this group.

Subversion of Automatic Safety Belts. There were a substantial proportion (49%) of Long-trip users who said that it was likely that they would unbuckle automatic safety belts so that they didn't have to wear them. Also, 22 percent of Long-trip users in MUL states said that they, or someone in their family, might permanently disconnect automatic safety belts. Accordingly, efforts to encourage the acceptance of automatic safety belts among individuals who purchase cars that are equipped with them should be a priority area in coming years.

Acceptance of Air Bags. Long-trip users in MUL states expressed less preference for air bags than Almost Always users:

- Only 44 percent said that they would choose a rental car that came equipped with air bags (compared to 56% of Almost Always users); and

- Only a third of the Long-trip users indicated that they would agree to pay as much as the cost of an AM/FM radio/cassette player for air bags.

While Long-trip users strongly agreed that air bags would reduce injuries and provide good family protection, they were concerned that air bags might inflate by mistake (32% strongly agreed) and cause the driver to lose control of the car (41% strongly agreed). Messages aimed at encouraging the acceptance of air bags among this group may do well to reinforce the safety features of air bags and correct misconceptions about their reliability.

Only 54 percent of Long-trip users said that it was very likley that they would wear safey belts in an air bag equipped car (compared to 83% of Almost Always users). Therefore, the importance of wearing safety belts for full protection in air bag-equipped cars will also be a necessary theme for this audience.

SECTION SIX

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS: AUTOMATIC SAFETY BELTS

Findings and conclusions about the public's knowledge and acceptance of automatic safety belts are briefly summarized below.

- **AWARENESS:** Sixty percent of all respondents indicated that they had not heard of automatic safety belts. Only 12 percent reported having ridden in a car with automatic safety belts.

- **KNOWLEDGE:** Respondents who had heard of automatic safety belts but had not ridden in a car so equipped had only a general understanding of how they work.

- **PREFERENCE:** Given a choice between manual and automatic belts, 60 percent of the respondents indicated a preference for manual safety belts while only 30 percent preferred automatic belts.

- **PERCEIVED DISADVANTAGES:** A majority of the respondents agreed with statements that automatic safety belts (a) are probably more complicated so they are more likely to break down (71%), and (b) might trap people in the car in an accident (66%). A lesser yet substantial number agreed that automatic belts (a) would be uncomfortable (44%), and (b) would make it hard to get in and out of the car (41%).

- **FAVORABLE OPINIONS:** Respondents generally agreed that not having to remember to buckle up was an advantage (93%). More importantly, respondents agreed with statements that (a) they would feel better knowing that their family would always have some protection in an accident, and (b) automatic safety belts would greatly reduce the chances of being injured in a car accident.

- **OPINIONS OF RESPONDENTS WHO PREFERRED AUTOMATIC SAFETY BELTS:** Respondents who preferred automatic safety belts agreed more with statements that (a) automatic safety belts would reduce the chance of being injured, and (b) people do not have to remember to buckle them. They agreed less that automatic safety belts would (a) be uncomfortable, (b) make it hard to get in and out of the car, (c) be a nuisance to have to be belted when going for a short ride, (d) probably be more complicated and more likely to break down, and (e) trap people in the car in an accident.

- **LIKELIHOOD OF PURCHASE:** Less than half (46%) of respondents said they would be willing to pay as much as the cost of an AM radio ($40) if a new car they were buying came equipped with automatic safety belts. One-third of infrequent belt users would agree to pay that cost.

- **LIKELIHOOD OF USE:** Approximately 40 percent of respondents stated that they would be likely to unbuckle automatic belts. Seventeen percent of respondents who reported that they "almost always" use belts and 16 percent of those who reported having ridden in a car equipped with automatic belts said they would be much less likely to unbuckle automatic belts than those who rarely use belts (67%) or those who said they had not ridden in such vehicles (42%). Respondents in states with MULs in effect said they were less likely to unbuckle (63%) than those in states where there were no belt laws in effect (55%).

- **LIKELIHOOD OF PERMANENTLY DISCONNECTING:** Approximately 20 percent of respondents stated that they or someone in their household would try to disconnect the belts permanently. Respondents who rarely used safety belts were more likely to state that someone would permanently disconnect the automatic belts (34%).

CONCLUSIONS: AIR BAGS

Findings and conclusions about the public's knowlege and acceptance of air bags are briefly summarized below.

- **AWARENESS:** Respondents (96%) had heard of air bags.

- **PREFERENCE:** Respondents would prefer a car equipped with air bags if they were renting a car (50%), compared to a car equipped with either manual (37%) or automatic safety belts (13%).

- **PERCEIVED DISADVANTAGES:** Respondents agreed with statements that (a) it would be hard to know if air bags really work when needed (73%), (b) air bags might inflate by mistake (81%), (c) the driver wouldn't be able to see out of the front window once the air bags inflated (75%), and (d) the driver would lose control of the car once the air bags had inflated (72%).

- **PERCEIVED LIMITATIONS:** Respondents believed that air bags would not provide enough protection for small children unless they were sitting in a child safety seat (80%) or in rear-end, side or roll-over crashes (71%). Respondents who preferred air bags were less concerned about these perceived limitations.

- **FAVORABLE OPINIONS:** Respondents believed that air bags greatly reduce the chances of being injured in a car accident (91%) and would feel better knowing that their family would always have some protection in an accident (92%).

- **LIKELIHOOD OF PURCHASE:** One-third of respondents would pay as much as the cost of an AM/FM stereo radio/cassette player ($300) if a car they were buying came equipped with air bags.

- **USE OF SAFETY BELT WITH AIR BAGS:** Respondents were generally aware of the need to use safety belts with air bags (70%) and most (85%) indicated that they would use a safety belt with an air bag. However, only 25 percent of those who reported that they rarely use belts indicated that they would be very likely to use them. The likelihood of wearing safety belts was higher where MULs were in effect (65%) than where they were not in effect (55%). Twenty percent of the respondents indicated that concern about the reliability of air bags was a reason for using belts.

CONCLUSIONS: MANDATORY SAFETY BELT USE LAWS

Findings and conclusions regarding support for and effect of mandatory safety belt use laws are summarized below.

- **AWARENESS OF MULs IN STATES WITH MULs IN EFFECT:** Respondents (95%) were aware of MULs in states where those laws were in effect.

- **AWARENESS OF MULs IN STATES WITHOUT MULs IN EFFECT:** Only 40 percent of the respondents in states where a MUL had been passed but not yet in effect were aware of the law. Twenty percent of the respondents in states without MULs thought such laws had been passed.

- **AWARENESS OF CHILD SAFETY SEAT LAWS:** There was higher awareness of child safety seat laws in states where MULs were in effect (92%) than where they were not in effect (80%).

- **MOST FREQUENT SEAT BELT USERS:** Older people (63%), better educated people (67%), females (62%), and city residents (65%) reported "almost always" using belts in states where MULs were in effect.

- **EFFECT OF MUL ON SAFETY BELT USE:** Respondents reported higher belt use rates in MUL states with fines (64%) than without fines (49%).

- **EFFECT OF PERCEIVED STRICTNESS OF ENFORCEMENT:** Respondents who perceived stricter enforcement reported higher belt use rates.

- **SUPPORT FOR MULs:** There was stronger support for MULs in states where MULs were in effect (62%) than in those states where they were not in effect (46%). Respondents who report "almost always" using safety belts support MULs much more (92%) than those who report "rarely" using belts (35% where MUL is in effect, 57% where MUL is not in effect).

- **REASONS FOR FAVORING OR OPPOSING MULs:** Respondents in both MUL and non-MUL states have similar reasons for favoring the law, namely, that it could save lives (62%), protect their family (10%), and make people safety conscious (11%). The main reason given for opposing the law was infringement of rights (16%).

RECOMMENDATIONS: AUTOMATIC SAFETY BELTS

1. INFORM THE PUBLIC ABOUT HOW AUTOMATIC SAFETY BELTS WORK

The public is generally unaware of and uninformed about automatic safety belts; therefore, the first step in promoting the purchase and use of automatic safety belts is the dissemination of materials that explain how automatic safety belts work mechanically so the public understands the system:

- That they automatically fasten when you close the door;
- That they can be unbuckled manually when necessary;
- The differences in motorized and non-motorized automatic systems.

A narrative description of automatic safety belts should be accompanied by pictures illustrating how the belt moves around the driver/passenger when getting into the car and how it moves away when exiting.

Secondly, the advantages of automatic safety belts need to be explained:

- That they are easy to use--you don't have to remember to buckle and you don't have to reach for the belt and find the buckle to fasten it--it is all done automatically.
- That they do not malfunction. Actual statistics would be helpful--demonstrating that automatic safety belts have not needed repairs and work as they are intended should increase public acceptance. Testimony from owners of cars with automatic safety belts could be persuasive.
- That they are effective in protecting passengers. Again, statistics from car accidents involving cars with automatic safety belts and testimony from people in accidents who were using automatic safety belts should be used.
- Particularly important, that automatic safety belts do not trap people in the car in accidents. The fact that automatic safety belts can be unbuckled should be emphasized (along with warnings not to do so except in emergencies), and actual experience of passengers using automatic safety belts involved in accidents should be presented.

Finally, the importance of using automatic safety belts (i.e., not permanently disconnecting them) needs to be emphasized. This is discussed in item 2 below.

2. PROMOTE THE USE OF AUTOMATIC SAFETY BELTS

Given that 10 percent of new cars being sold beginning Model Year 1987 in the Fall of 1986 will be equipped with automatic protection and a portion will be equipped with automatic safety belts, a program is needed to promote the use of automatic safety belts. Such a program should address the following issues:

- How easy automatic safety belts are to use--all you have to do is close the door and they are in place. You don't have to reach for the seat belt and find the buckle to fasten it.
- You don't have to remember to buckle it--it's done for you automatically.
- You don't have to remind/nag your passengers to buckle. (This point may appeal particularly to parents.)
- If you disconnect the belts, you take away protection from other family members who may not remember/want to rebuckle them.
- When you need to disconnect the belts it is easy to do so manually and it is easy to rebuckle them so they become automatic again.
- In states with MULs that include a fine, using automatic belts can save you from paying a fine.
- If item 4 below is instituted, disconnecting the system would, in itself, be a violation of the law.

3. PROMOTE AUTOMATIC SAFETY BELTS AMONG PEOPLE CURRENTLY USING BELTS ONLY ON LONG TRIPS

The survey found that 30 percent of the U.S. public usually wears safety belts only on long trips. This segment of the population is apparently aware of the protection provided by safety belts, but doesn't bother to use them on short trips. Automatic safety belts may be particularly attractive to this group because the automatic safety belts offer a feature particularly desirable to Long-trip users: you don't have to remember to buckle them. Materials pointing out the need for belts on short trips as well as long trips and the convenience of automatic safety belts--particularly for short trips--could influence current Long-trip users to purchase cars with automatic safety belts.

4. DISCOURAGE THE PUBLIC FROM DISCONNECTING AUTOMATIC SAFETY BELTS

Particularly important is a program to see that automatic safety belt systems are not disconnected--either by unbuckling them, actually removing them from the car or by other forms of disablement. In addition to materials emphasizing the need for safety belts and the advantages of automatic safety belts, a program to ensure automatic safety belts are not disabled should include:

- The inclusion of automatic safety belt systems in regular motor vehicle inspections. The system should be tested to see that it is functioning as originally intended and has not been subverted in any way.

- Develop an equipment violation regulation for MUL states. If belts are found not in working order--whether in an automobile inspection or if the driver has been stopped for non-compliance with the MUL or other traffic violations--a violation for disabling the system would be incurred. (Such equipment violations should be applicable to all occupant protection equipment required by Federal Motor Vehicle Safety Standards.)

- Develop a training/information program for police officers and vehicle inspectors and conduct training in how to detect that automatic belts have been disabled.

5. COLLECT AND PROVIDE THE PUBLIC WITH INFORMATION ABOUT CONSUMER EXPERIENCE WITH AUTOMATIC SAFETY BELTS

Because automatic safety belts are relatively new and unknown to the general public, it is important that information about their actual use be made available to the public. This was discussed to some extent in item 1 above. Data should be collected from people who have used automatic safety belts to determine the extent to which automatic safety belts have, in fact, been effective in protecting passengers, how convenient and comfortable they are to use, and how well they work (i.e., incidence of malfunction, need for repairs, etc.). It is therefore recommended that a survey of purchasers of cars equipped with automatic safety belts be conducted. This survey would determine:

- Whether the buyer initially intended to purchase a car with automatic safety belts: why did he/she decide to buy the car; were the automatic safety belts seen as a plus or minus feature of the car at the time of the purchase; has that opinion changed after experience with automatic safety belts? These questions would help identify the motivation of buyers of cars with automatic safety belts and provide guidance in directing promotional materials to the desires and concerns of the public.

- The extent to which automatic safety belts were used: in what circumstances (i.e., short trips, long trips) were they used; if the car was used by more than one family member, did usage vary by family member and who were the more frequent and infrequent users; did usage increase or decrease over time?

- If the system was disabled: when were the belts disconnected and by whom; were they reconnected; what is the current status of the system (connected or disconnected)?

- The general acceptance of the system: would the buyer want the same system in the next car; does the buyer like having the system in the car; what advice or information would the buyer give to friends about automatic safety belts if they were purchasing a new car?

- How the system might be improved: are there problems with the system; how could they be overcome by redesign?

- If the automatic safety belts malfunctioned: were any repairs needed; was the system hard to use because of mechanical failure?

- How the automatic safety belts functioned in an accident: did they trap passengers in the car; what were the extent of injuries and estimates of injuries if belts had not been used; ease of exit from the car.

In addition, anthropometric data would be collected to determine if acceptance of the system varies by type of individual and the type of automatic safety belt.

Data would be analyzed to determine to what extent the buyer's initial expectations about the sytem were met, what the user sees as the advantages and disadvantages (and how those disadvantages could be overcome), the extent to which the system was used, and, if an accident occurred, how well the system operated. All of these data are vital in perfecting automatic safety belt systems and in convincing the public of their usefulnes.

6. PROMOTE USE OF AUTOMATIC SAFETY BELTS AMONG POPULATIONS AT HIGH-RISK

Because high risk drivers are the least likely to wear safety belts, programs should be developed to expose high risk drivers to automatic safety belts.

- Promote the use of cars equipped with automatic safety belts in high school driver education courses. Students might be impressed with a "new technology" and even though they themselves are not likely to be purchasing new cars, they may have some influence in their family's choice of a new car. Additionally, when they do reach the age at which they can purchase a new car, they will already have been exposed to automatic safety belts.

- Promote the purchase of police cars equipped with automatic safety belts. Automatic safety belts should be attractive to police officers since they do not have to be unbuckled and therefore allow for quick exit from the car, and provide protection automatically upon entering the car.

- Promote acquisition of cars equipped with automatic safety belts in high-mileage fleet cars.

7. ACQUAINT THE PUBLIC WITH AUTOMATIC SAFETY BELTS THROUGH RENTAL CAR AGENCIES

By encouraging car rental agencies to purchase cars equipped with automatic safety belts, a large segement of the population would experience automatic belts, and this segment is one which would be likely to be car purchasers (i.e., individuals who are relatively high on the socio-economic scale).

Not only would this give significant numbers of the population first-hand experience with automatic safety belts, it would provide a centrally-located (i.e., rental agencies in airports) population that could be used in a survey. A survey of the rental car population (those renting cars with automatic safety belts) could obtain data from both observation and self-reporting. The sampled population could be observed using the system for the first time (was it complicated, did they disconnect it) as well as when they returned the car (having had a chance to become acquainted with the system). Reported data would address obvious issues such as the comfort and convenience of the system, why they disconnected the system (if they did), would they like a car with that system, etc. Self-reported data could be obtained through in-person interviews (since an observor would be on hand at the survey site), but it could also be obtained through an abbreviated self-administered questionnaire. Many people returning cars to airports are in a hurry to catch a plane. Therefore, a back-up method could be a self-administered questionnaire in a post card format that could be dropped in the mail. This could be handled administratively by the rental car agents (simply enclosing the questionnaire post card with the receipt) or by the on-site observer/interviewer.

8. DISSEMINATE INFORMATION USING A VARIETY OF MEDIA CHANNELS

Materials and messages should be disseminated through numerous channels, reaching all types of the population. There is a need to simply educate the public about the existence of automatic safety belt systems and their advantages over manual systems. To increase the public's general awareness of and knowledge about automatic safety belts, both the print and video media should be used.

Print Media

Feature articles about automatic safety belt systems, which include data from tests or actual consumer experience, should be placed in a variety of magazines. While the articles in the various types of publications would feature the same information, the format, presentation, technical level, and vocabulary would vary by the magazines' audiences.

- Car-Enthusiasts Magazines, such as Car and Driver and Motor Trend obviously reach a population interested in cars and new features.
- The Popular Press, including Reader's Digest and Parade, reaches a large segment of the population; The Wall Street Journal and the New York Times reaches a somewhat more sophisticated segment of the population.
- Consumer Magazines, such as Consumer Reports, are consulted by the population seeking information about products they intend to buy. It would be important to have automatic belts evaluated in these journals, either as part of the evaluation of a particular car model, or as a separate consumer item.
- Fitness Magazines. There are a growing number of magazines concerned with health and personal fitness (Self). Items about automatic safety belts might be included in a "What's New" section of such magazines.

Television

TV news programs, such as "60 Minutes" and "20/20" would reach a large audience. These programs, of course, have editorial control over program content, but NHTSA could provide the networks with data concerning the effectiveness of automatic safety belts and consumer opinions about them based on the surveys conducted to date and those recommended above.

Public service announcements by celebrities, such as Bill Cosby or Bruce Springsteen or William "The Refrigerator" Perry, would also serve to increase the public's awareness and acceptance of automatic safety belt systems. Endorsements by major sports figures or rock stars could be particularly useful in reaching younger people who are the most resistant to seat belts in general.

Car Advertisements

Whether in the print or TV media, car manufacturers should be encouraged to emphasize the attractiveness of automatic safety belts in their advertising--their effectiveness in protecting family members, ease of use, and dependability.

Public Gatherings

Areas and events which draw the public, such as State fairs, shopping malls, and other community festivities, offer an opportunity to have a car on display equipped with automatic safety belts that the public can actually test by getting in and out of the car. Such first-hand experience would be valuable in acquainting the public with the features of automatic safety belts.

RECOMMENDATIONS: AIR BAGS

Promoting the purchase of cars equipped with air bags is more difficult than promoting the purchase (and use) or automatic safety belts because the overridding issue appears to be cost.

1. ADDRESS THE COST ISSUE

Cost is a major obstacle to the public's acceptance of air bags. As the knowledge that replacement cost of air bags is about equal to initial purchase price, cost will likely become an even more important issue.

One cost issue which must be addressed is who will pay to have the air bag replaced once it has inflated: is it covered by insurance; is there an additional premium for air bag replacement and, if so, how much is the added cost?

The possibility of insurance companies lowering premiums for personal injury if a car is equipped with air bags should be explored. Data would be needed that are conclusive in showing the decrease in medical bills attributable to air bag protection.

The initial purchase price of air bags remains the largest obstacle to their acceptance. Safety engineers must be encouraged to develop a cheaper, yet safe, air bag technology. There seems little doubt that the public would accept air bags if they were available at a reasonable price.

2. ADDRESS THE PUBLIC'S CONCERNS ABOUT AIR BAGS

It is important to inform the public about the added protection afforded by air bags so they can make an informed decision about whether air bags are worth the increased expense.

Fortunately, NHTSA has the data available to inform the public about the performance of air bag-equipped cars in accidents. These data can be used to disspell the public's notions about the "dangers" of air bags:

- When air bags inflate in an accident, they deflate quickly so the driver's vision is not impaired nor does the driver lose control of the car;

- Air bags do not inflate "by mistake"--they inflate only when a collision occurs requiring the protection afforded by air bags;

- Air bags are reliable over a long period of time; even though you don't see them, they are ready for use when needed. (Cases could be cited where car owners had purchased a car not knowing it was equipped with air bags and having them function in an accident.)

SRA's preliminary analysis of NHTSA's air bag data indicated that there was no evidence to substantiate the public's concerns about air bags causing more injury or complications in an accident than the benefits afforded by air bags. The public needs this information which is based on actual experience to become more comfortable with the idea of air bags protecting them, and not presenting additional dangers, in the case of an accident. In the survey, the public expressed a desire to have information on how air bags actually worked, so there is a receptive audience for information about air bag performance.

3. INFORM THE PUBLIC OF AIR BAG LIMITATIONS

In addition to being informed about the advantages of air bags, they also need to be informed about their limitations:

- Air bags do not provide protection in all types of collisions--only front-end collisions;

- Safety belts should be used with air bags to afford the maximum protection.

Purchasers of cars with air bags must be informed of these issues so they do not believe that the air bags alone will protect them in any kind of accident.

4. DISSEMINATE INFORMATION USING A VARIETY OF MEDIA CHANNELS

The recommendations for information dissemination about automatic safety belts are appropriate for air bags as well. Additionally, more of the higher-priced cars are equipped with air bags. The opportunity exists to connect in the public's mind the presence of air bags and a highly-desired consumer product (an expensive car). If the public sees advertisements for cars such as Volvos and Mercedes Benz featuring air bags, these may well become a desired feature.

RECOMMENDATIONS: MANDATORY USE LAWS

NHTSA should continue to support passage of mandatory use laws and should support the inclusion of a fine in the law as well as the strict enforcement of the law. Data should be available to State legislatures showing the effectiveness of the laws in states where they have been implemented. These data are available from numerous state surveys as well as the national survey just completed.

Issues addressed in the national survey should continue to be monitored through on-going surveys. The purpose of such surveys would be to evaluate the impact on safety belt usage of:

- the time between implementation of a MUL and the imposition of a fine for non-compliance;
- the difference if enforcement is primary or secondary;
- the difference if enforcement is primarily by state highway police or both state and local police;
- the difference in perceived strictness with which the law is being enforced.

Information obtained through surveys will need to be disseminated to state legislatures, state and local enforcement agencies, and other organizations concerned with highway safety to support strict enforcement of MULs and the effectiveness of including a fine with MULs. Since at least some individuals in these organizations may have some reservations about automatic safety belts and/or air bags, the imformation suggested for the general public about automatic protection systems should be included in informational packets for these special purpose organizations.

Because stated usage is always higher than actual (observed) usage, (and as non-use becomes illegal, stated usage may become even higher), it would be helpful to combine observational surveys with telephone surveys to determine the extent of over-reporting of safety belt use. As automatic safety belts become more common, a combined survey could also determine the extent to which automatic safety belts are being used.

END NOTE

One final note. The three major areas studied in this project--automatic safety belts, air bags, and mandatory use legislation--are not "either/or" alternatives: they all add a dimension to providing protection to vehicle occupants and complement each other. For example:

- automatic safety belts make it easier for people to comply with mandatory use laws;

- air bags provide protection beyond that afforded by seat belts;
- belts are needed to provide full protection in an air bag-equipped car;
- mandatory use laws encourage the use of safety belts (whether manual or automatic).

Promotion of manual and automatic protection systems, as well as support for passage and enforcement of mandatory use laws should be pursued vigorously by the NHTSA, car manufacturers, public health organizations, insurance companies and other organizations whose purpose is to promote public health and safety.

APPENDIX A
QUESTIONNAIRE

OMB No. 21270540
Exp. Date: 1/87

AFFIX LABEL HERE

TELEPHONE NUMBER

AREA | RESPONDENT NO. | CARD (1) | 1-5

AREA CODE | 6-8

RESPONDENT IS: MALE FEMALE	AGE:

RECORD OF CONTACTS:

INT. #	DATE	TIME	SHIFT: A E S	RESULT	RESULT CODE:	
			2 1 0			9
			2 1 0			10
			2 1 0			11
			2 1 0			12
			2 1 0			13
			2 1 0			14

# CALLS TO COMPLETE		15
SHIFT INTERV.COMPL.		16

CODES:

1 = INTERVIEW COMPLETED
2 = INCOMPLETE INTERVIEW
3 = NOT A WORKING NUMBER
4 = BUSINESS
5 = NO ELIGIBLE RESPONDENT
6 = NO ANSWER

CALLBACK REQUIRED:

7 = BUSY (RE-DIAL IN 15 MINUTES)
8 = REFUSAL--DESCRIBE (ONE CALLBACK ONLY)
9 = APPOINTMENT MADE (RECORD BELOW)
0 = ELIGIBLE RESPONDENT NOT AVAILABLE
X = OTHER (SPECIFY ABOVE)

Hello, I'm _____ of SRA Technologies. We are gathering information for the U.S. Department of Transportation. We are talking to people all over the country about their ideas and attitudes about safety features in cars to help transportation specialists plan for the future. Your number was randomly chosen.

A. First, just let me check that I dialed the right number. Is this area code (REPEAT COMPLETE TELEPHONE NUMBER)?

IF NO: I'm sorry. I've reached the wrong number. HANG UP AND RE-DIAL.

B. Have I reached you at home (or is this a business)?

YES, HOME: CONTINUE WITH ITEM C.

NO, BUSINESS: Thank you, but we're only interviewing people in their homes. CODE "4" ABOVE.

RECORD APPOINTMENT:

GIVE SHEET TO SUPERVISOR

DAY/DATE	THEIR TIME	D.C. TIME

C. In this survey we are interviewing people age 18 and over who drive or ride in a car. First, can you tell me if you are 18 or over and whether you drive or or ride in a car? And could you tell me the relationship of who else lives in your household who is age 18 or older and who drives or rides in a car. (RECORD RELATIONSHIP, E.G., HUSBAND, SON, ETC.)

√ RESP		HOUSEHOLD MEMBERS AGE 18+ WHO DRIVE OR RIDE
	1	← PERSON ON PHONE (IF DRIVE OR RIDE)
	2	
	3	CHECK (√) RESPONDENT.
	4	
	5	← NUMBER OF ENTRIES HERE MUST EQUAL NUMBER HERE
	6	
	7	
	8	

TOTAL NUMBER OF ADULTS WHO DRIVE OR RIDE (INCLUDING RESPONDENT) [| X] 1

Is there anyone else age 18 or older who drives or rides in a car?

D. SELECT RESPONDENT AND CHECK THE BOX NEXT TO THE RESPONDENT.

E. CODE SEX OF RESPONDENT HERE AND ON FRONT PAGE.....

MALE	FEMALE	
1	0	X

1

F. **IF INTERVIEW WILL BE CONDUCTED WITH PERSON ON PHONE:** Now we're up to the survey questions. They will only take about 20 minutes. RECORD TIME AND GO ON TO NEXT PAGE.

TIME INTERVIEW BEGAN: _____ am/pm

IF INTERVIEW WILL BE CONDUCTED WITH OTHER MEMBER: I would like to interview your (son/daughter/husband, etc.). Could I speak with him/her now? REPEAT INTRODUCTION FOR RESPONDENT; RECORD TIME AND THEN GO TO NEXT PAGE.

IF RESPONDENT NOT AVAILABLE: When do you think would be a good time for me to call back? (And who should I ask for?)

RECORD DATE AND TIME OF APPOINTMENT ON FIRST PAGE AND GIVE SHEET TO SUPERVISOR.
BE SURE YOU HAVE IDENTIFIED WHO TO ASK FOR WHEN CALLING BACK.

READ CONFIDENTIALITY STATEMENT:

Your household was selected at random as part of a nationwide sample of Americans being asked to participate in this survey. Of course your participation is completely voluntary, and all information will be kept strictly confidential. Your answers will be grouped with those of hundreds of other Americans and used only for research purposes.

AUTOMATIC SEAT BELTS

		YES	NO		
1.	Some cars being sold now have automatic seat belts. Have you heard of automatic seat belts?.....	1	0	X	19

IF NO, SKIP TO Q. 5a.

		YES	NO		
2.	**IF YES:** Have you ever ridden in a car that had automatic seat belts?.....	1	0	X	20

IF NO, SKIP TO Q. 4.

3. **IF YES:** What did you like or not like about automatic belts?

RECORD RESPONSE: _____

_____

_____

_____

PROBE IF NO POSITIVE/NEGATIVE RESPONSE: Is there anything you [like/don't like] about automatic seat belts?

ENTER "1" OPPOSITE THE FIRST ITEM MENTIONED, "2" OPPOSITE THE SECOND, ETC.; UNTIL ALL MENTIONED ITEMS HAVE BEEN NUMBERED IN THE ORDER THEY ARE MENTIONED.

POSITIVE RESPONSES:

EASIER TO USE THAN MANUAL BELTS.....		X	21
DON'T HAVE TO REMEMBER TO BUCKLE/FASTEN AUTOMATICALLY...		X	22
PROTECTION FROM INJURY.....		X	23
COULD DISCONNECT THEM IF I DIDN'T LIKE THEM.....		X	24
OTHER POSITIVE COMMENT.....		X	25

NEGATIVE RESPONSES:

I DON'T LIKE ANY SEAT BELTS.....		X	26
DON'T WANT TO BE FORCED TO USE BELTS ALL THE TIME.....		X	27
WANT TO DECIDE WHEN TO BUCKLE UP.....		X	28
MIGHT GET TRAPPED IN CAR IN ACCIDENT.....		X	29
GETTING IN AND OUT WOULD BE INCONVENIENT.....		X	30
WOULD BE UNCOMFORTABLE/NOT AS ADJUSTABLE AS MANUAL.....		X	31
MANUAL BELTS ARE EASY ENOUGH TO USE/WHY CHANGE?.....		X	32
MIGHT NOT WORK PROPERLY/MALFUNCTION.....		X	33
WOULD PROBABLY COST MORE.....		X	34
CANNOT BE USED WITH CHILD SAFETY SEATS.....		X	35
MANUAL SEAT BELTS ARE SAFER.....		X	36
OTHER NEGATIVE RESPONSE.....		X	37

SKIP TO Q. 5b AND THEN SKIP TO Q. 7.

4. What have you heard about how they work?

RECORD RESPONSE: _____

_____

_____

_____

	C&A MOST INAC				
CODE FOR COMPLETENESS/ACCURACY OF RESPONSE.....	2	1	0	X	38

COMPLETE AND ACCURATE = 2
MOSTLY COMPLETE AND/OR ACCURATE = 1
INACCURATE; VERY LITTLE INFORMATION = 0

CIRCLE "1" FOR SPECIFIC ITEM MENTIONED:	MENT		
AUTOMATICALLY BUCKLE WHEN SHUT THE DOOR.....	1	X	39
CAN UNBUCKLE THEM IF YOU WANT/NEED TO.....	1	X	40
PROTECTION FOR TWO FRONT SEAT PASSENGERS ONLY.....	1	X	41
ATTACHED TO DOOR/CEILING TRACK.....	1	X	42
CANNOT DISCONNECT THE BELTS MANUALLY.....	1	X	43
MUST BUCKLE THEM YOURSELF.....	1	X	44
ONLY LAP BELT/NO SHOULDER STRAP.....	1	X	45
INTERLOCK/CANNOT START CAR UNLESS FASTENED.....	1	X	46
OTHER.....	1	X	47
OTHER.....	1	X	48

5a. The kind of automatic seat belt I'm talking about is one that when you sit down and close the door the seat belt will automatically fasten around you so you don't have to buckle it. When you open the door to get out of the car, the seat belt moves out of your way so you don't have to unbuckle it. If for any reason you need to unbuckle the seat belt while the car door is closed, you can do so manually by pressing a release. However, once you have unbuckled it, to make the belts work automatically again you have to rebuckle it.

5b. If you had a choice, do you think you'd rather have a car with manual seat belts--the kind you buckle and unbuckle yourself, or would you rather have the automatic belts I've just described?.....

MAN	AUTO	NOT SURE		
2	1	0	X	49

MANUAL = 2; AUTOMATIC = 1; NOT SURE = 0

SKIP TO Q. 7 IF RESPONDENT HAS USED AUTOMATIC BELTS (Q. 2).

6. What do you think of as the good points and bad points about automatic seat belts?

RECORD RESPONSE: _____

_____

_____

PROBE IF NO GOOD/BAD POINTS: What do you think of as the [good/bad] points?

ENTER "1" OPPOSITE THE FIRST ITEM MENTIONED, "2" OPPOSITE THE SECOND, ETC., UNTIL ALL MENTIONED ITEMS HAVE BEEN NUMBERED IN THE ORDER THEY ARE MENTIONED.

GOOD POINTS:			
EASIER TO USE THAN MANUAL BELTS.....		X	50
DON'T HAVE TO REMEMBER TO BUCKLE/FASTEN AUTOMATICALLY...		X	51
PROTECTION FROM INJURY.....		X	52
COULD DISCONNECT THEM IF I DIDN'T LIKE THEM.....		X	53
OTHER GOOD POINTS.....		X	54
BAD POINTS:			
I DON'T LIKE ANY SEAT BELTS.....		X	55
DON'T WANT TO BE FORCED TO USE BELTS ALL THE TIME.....		X	56
WANT TO DECIDE WHEN TO BUCKLE UP.....		X	57
MIGHT GET TRAPPED IN CAR IN ACCIDENT.....		X	58
GETTING IN AND OUT WOULD BE INCONVENIENT.....		X	59
WOULD BE UNCOMFORTABLE/NOT AS ADJUSTABLE AS MANUAL.....		X	60
MANUAL BELTS ARE EASY ENOUGH TO USE/WHY CHANGE?.....		X	61
MIGHT NOT WORK PROPERLY/MALFUNCTION.....		X	62
WOULD PROBABLY COST MORE.....		X	63
CANNOT BE USED WITH CHILD SAFETY SEATS.....		X	64
MANUAL SEAT BELTS ARE SAFER.....		X	65
OTHER BAD POINTS.....		X	66
NOT SURE (CIRCLE "1").....	1	X	67

7. You've told me about how you feel about automatic seat belts. Now I'd like to read some opinions that other people have about automatic seat belts and I'd like to know how much you agree or disagree with each of these. For each statement I read, please tell me if you agree strongly or agree somewhat, or disagree strongly or disagree somewhat with the statement. First, **(READ STATEMENT)**, do you agree strongly or somewhat, or disagree strongly or somewhat with that?

AGREE STRONGLY = 3; AGREE SOMEWHAT = 2; DISAGREE SOMEWHAT = 1; DISAGREE STRONGLY = 0

	AGREE STR	AGREE SOME	DISAGREE SOME	DISAGREE STR		
● a. Automatic seat belts would be uncomfortable.....	3	2	1	0	X	68
● b. Automatic seat belts would greatly reduce the chances of being injured in a car accident.....	3	2	1	0	X	69
c. A good thing about automatic belts is that people don't have to remember to buckle them.....	3	2	1	0	X	70
d. Automatic belts would make it hard to get in and out of the car.....	3	2	1	0	X	71
e. It would be a nuisance to have to be belted in by an automatic belt when going for just a short ride.....	3	2	1	0	X	72
f. I would feel better knowing that my family would always have some protection in an accident.....	3	2	1	0	X	73

	AGREE STR		DISAGREE	STR		
g. In an accident, automatic seat belts might trap people in the car.....	3	2	1	0	X	74

	AGREE STR		DISAGREE	STR		
h. Automatic seat belts are probably more complicated so they are more likely to break down.....	3	2	1	0	X	75

	MORE		NO DIF	LESS DEP		
8. If you were buying a new car and decided on one you liked and then found that it came equipped with automatic seat belts, would you be more likely to buy it, less likely or wouldn't it make any difference?.....	3	2	1	0	X	76

MORE LIKELY = 3; NO DIFFERENCE = 2; LESS LIKELY = 1;
DEPENDS ON COST = 0

	VERY		SOME	NOT	NOT SURE		
9. If the car you bought had automatic seat belts, how likely is it that you would unbuckle the belt so you didn't have to wear it? Is it very likely, somewhat likely or not at all likely?.....	3	2	1	0	X	77

VERY LIKELY = 3; SOMEWHAT LIKELY = 2; NOT AT ALL LIKELY = 1;
NOT SURE = 0

	VERY		SOME	NOT	NOT SURE		
10. If the car you bought had automatic seat belts, how likely is it that you or someone in your household would try to disconnect the belts permanently--like cutting them out of the car--so that you could avoid wearing the belts? Is it very likely, somewhat likely, or not at all likely?.....	3	2	1	0	X	78

VERY LIKELY = 3; SOMEWHAT LIKELY = 2; NOT AT ALL LIKELY = 1;
NOT SURE = 0

DATA ENTRY: COLS. 79-80 = BLANK; DUPLICATE COLS. 1-4; COL 5 = 2.

11. If you were buying a new car, would you agree to have it come equipped with automatic seat belts if they cost about as much extra as a standard AM radio?.....

YES	NO		
1	0	X	6

IF NO, SKIP TO Q. 13

12. Would you agree to have it come equipped with automatic seat belts if they cost about as much extra as an AM/FM stereo radio with a cassette tape player?.....

YES	NO		
1	0	X	7

13. I've been asking your opinion about automatic seat belts. What information would most help you decide whether to have them in your next car?

RECORD RESPONSE: _____

_____

_____

ENTER "1" OPPOSITE THE FIRST ITEM MENTIONED, "2" OPPOSITE THE SECOND, ETC., UNTIL ALL MENTIONED ITEMS HAVE BEEN NUMBERED IN THE ORDER THEY ARE MENTIONED.

NOTHING.....		X	8
HOW MUCH THEY COST.....		X	9
INFORMATION ON HOW THEY WORK MECHANICALLY (NOT EFFECTIVENESS)		X	10
HOW EFFECTIVE THEY ARE IN PROTECTING PASSENGERS IN ACCIDENTS		X	11
HOW SAFE THEY ARE (POTENTIAL TRAP IN ACCIDENT).....		X	12
HOW SAFE THEY ARE COMPARED TO MANUAL BELTS.....		X	13
DATA/STATISTICS/CONSUMER REPORTS/TEST RESULTS.....		X	14
HOW COMFORTABLE THEY ARE TO WEAR.....		X	15
HOW THEY LOOK.....		X	16
HOW CONVENIENT THEY ARE TO USE.....		X	17
OTHER.....		X	18

AIR BAGS

		YES	NO		
1.	A safety device that some cars are now being equipped with is the air bag. Have you heard of the air bag?.....	1	0	X	19

IF NO, SKIP TO Q.4.

2. **IF YES:** What have you heard about how it works? **PROBE:** Anything else?

RECORD RESPONSE: _____

_____

CODE FOR COMPLETENESS AND ACCURACY OF RESPONSE

	C&A	MOST	INAC		
	2	1	0	X	20

COMPLETE AND ACCURATE = 2
MOSTLY COMPLETE AND/OR ACCURATE = 1
INACCURATE; VERY LITTLE INFORMATION = 0

CIRCLE "1" FOR SPECIFIC INFORMATION MENTIONED:

	MENT		
INFLATES AUTOMATICALLY.....	1	X	21
INFLATES IN HEAD-ON COLLISION.....	1	X	22
PROTECTS FROM WINDSHIELD, STEERING WHEEL, DASHBOARD.....	1	X	23
DEFLATES IMMEDIATELY.....	1	X	24
MUST BE REPLACED AFTER INFLATING.....	1	X	25
WOULD ADD COST TO CAR.....	1	X	26
INFLATES BY MISTAKE FREQUENTLY.....	1	X	27
STAYS INFLATED/CAN'T SEE WHEN IT INFLATES.....	1	X	28
PROTECTS IN ALL KINDS OF ACCIDENTS.....	1	X	29
DON'T NEED SEAT BELTS WITH AN AIR BAG.....	1	X	30
MIGHT NOT INFLATE WHEN SUPPOSED TO.....	1	X	31
OTHER.....	1	X	32

		YES	NO	D/K		
3.	If you have an air bag in your car, should you wear a seat belt?.....	2	1	0	X	33

RECORD RESPONSE: _____

PROBE: Why? RECORD RESPONSE: _____

_____

	X	34
DO NOT CODE		

4. The kind of air bags I'm talking about are devices which are placed in the dashboard and steering wheel of a car. When a car is involved in a front-end collision, the air bags automatically inflate instantly to keep the driver and passengers from hitting the windshield or steering wheel. They deflate just as quickly afterward. Air bags must be replaced by a trained mechanic after they have inflated. Seat belts should be worn for maximum protection. What do you think of as the good points and bad points about air bags?

RECORD RESPONSE: _____

PROBE IF NO GOOD/BAD POINTS: What do you think of as the [good/bad] points? ENTER "1" OPPOSITE 1st MENTIONED, "2" OPPOSITE 2nd, ETC.

GOOD POINTS:

GOOD PROTECTION/FROM WINDSHIELD/STEERING WHEEL.....		X	35
THEY WORK AUTOMATICALLY, DON'T HAVE TO THINK ABOUT THEM.....		X	36
THEY ARE OUT OF SIGHT.....		X	37
PROVIDE PROTECTION BEYOND THAT AFFORDED BY SEAT BELTS.....		X	38
PROVIDE PROTECTION TO PEOPLE WHO WON'T WEAR SEAT BELTS.....		X	39
OTHER GOOD POINTS.....		X	40

BAD POINTS:

THEY MIGHT INFLATE AT THE WRONG TIME.....		X	41
WOULD LOSE CONTROL OF CAR.....		X	42
COULDN'T SEE TO STEER.....		X	43
GAS MIGHT BE DANGEROUS/CAUSE FIRE.....		X	44
THEY ARE PROBABLY EXPENSIVE.....		X	45
EXPENSIVE TO REPLACE.....		X	46
WOULDN'T KNOW IF IT WAS WORKING UNTIL YOU CRASHED.....		X	47
ONLY GOOD FOR FRONT-END COLLISIONS.....		X	48
NO BETTER THAN SEAT BELTS--DON'T NEED MORE PROTECTION.....		X	49
PROVIDE LESS PROTECTION THAN SEAT BELTS.....		X	50
OTHER BAD POINTS.....		X	51

5. You've told me about how you feel about air bags. I'd like to read some opinions that other people have given about air bags and I'd like to know how much you agree or disagree with each of these. For each statement I read please tell me if you agree strongly or somewhat, or disagree strongly or disagree somewhat with the statement. First **(READ STATEMENT)**, do you agree strongly or somewhat, or disagree strongly or somewhat with that?

AGREE STRONGLY = 3; AGREE SOMEWHAT = 2; DISAGREE SOMEWHAT = 1; DISAGREE STRONGLY = 0

	AGREE STR	AGREE SOME	DISAGREE SOME	DISAGREE STR		
● a. It would be hard to know if air bags would really work when needed.....	3	2	1	0	X	52
● b. Air bags would greatly reduce the chances of being injured in a car accident.....	3	2	1	0	X	53
c. Air bags might inflate by mistake.....	3	2	1	0	X	54
d. The driver would lose control of the car once the air bags had inflated.....	3	2	1	0	X	55
e. I would feel better knowing that my family would always have some protection in an accident.....	3	2	1	0	X	56
f. The driver wouldn't be able to see out the front window once the air bags inflated....	3	2	1	0	X	57

	AGREE STR	SOME	DISAGREE SOME	STR		
g. Air bags might hit the driver and passenger too hard when they inflate.....	3	2	1	0	X	58
h. Air bags aren't very worthwhile because they don't provide enough protection in a rear-end, side or roll-over crash.....	3	2	1	0	X	59
i. In a crash, air bags would be less likely to cause injury than seat belts.....	3	2	1	0	X	60
j. Air bags would not provide enough protection for small children unless they were sitting in a safety seat.....	3	2	1	0	X	61

6. If you were riding in a car equipped with air bags, what is the likelihood that you would also use a seat belt to provide added protection? Would you say very likely, somewhat likely or not at all likely?..

VERY	SOME	NOT		
2	1	0	X	62

VERY LIKELY = 2; SOMEWHAT LIKELY = 1; NOT AT ALL LIKELY = 0

7. If you were buying a new car and decided on one you liked and then found that it came equipped with air bags, would you be more likely to buy it, less likely or wouldn't it make any difference?.....

MORE	NO DIF	LESS	DEP		
3	2	1	0	X	63

MORE LIKELY = 3; NO DIFFERENCE = 2; LESS LIKELY = 1;
DEPENDS ON COST = 0

8. If you were buying a new car, would you agree to have it come equipped with air bags if they cost about as much extra as a standard AM radio?.....

YES	NO		
1	0	X	64

IF NO, SKIP TO Q. 10

9. Would you agree to have it come equipped with air bags if they cost about as much extra as an AM/FM stereo radio with a cassette tape player?.....

YES	NO		
1	0	X	65

10. If you were renting a car and had a choice, would you select one with manual seatbelts only, automatic seatbelts, or air bags and manual seatbelts?.....

MANUAL ONLY	AUTO-MATIC	AIR BAGS AND BELTS		
3	2	1	X	66

11. I've been asking your opinion about air bags. What information would most help you decide whether or not to have them in your next car?

RECORD RESPONSE: _____

_____

_____

HOW MUCH THEY COST INITIALLY.....		X	67
HOW MUCH THEY COST TO REPLACE.....		X	68
INFORMATION ON HOW THEY WORK MECHANICALLY (NOT EFFECTIVENESS)		X	69
HOW EFFECTIVE THEY ARE IN PROTECTING PASSENGERS IN ACCIDENTS		X	70
WHAT ARE THE DANGERS OF AIR BAGS.....		X	71
DATA/STATISTICS/CONSUMER REPORTS/TEST RESULTS.....		X	72
OTHER.....		X	73
OTHER.....		X	74

DATA ENTRY: COLS. 75-80 = BLANK; DUPLICATE COLS. 1-4; COL 5 = 3.

LEGISLATION

1. Some states have passed laws requiring the driver and front seat passengers to always use their seat belt or requiring that young children always ride in a safety seat in the car. Are you aware of any such laws in your state?.....

YES	NO		
1	0	X	6

IF NO, SKIP TO Q. 7.

2. What laws are they?.....

A&C	A	CH		
2	1	0	X	7

RECORD RESPONSE: _____

_____

_____

ADULT AND CHILDREN = 2; ADULTS ONLY = 1; CHILDREN ONLY = 0

IF CHILD LAW ONLY, SKIP TO Q. 7.

3. How do you feel about the law that requires you to wear a seat belt whenever you drive or are a front seat passenger? Are you strongly in favor of that law, somewhat in favor, somewhat opposed or strongly opposed to it?.....

FAVOR STR	FAVOR SOME	OPPOSE SOME	OPPOSE STR		
3	2	1	0	X	8

STRONGLY FAVOR = 3; SOMEWHAT FAVOR = 2 **(ASK Q. 4.)**;
SOMEWHAT OPPOSED = 1; STRONGLY OPPOSED = 0 **(SKIP TO Q.5.)**

4. **IF FAVOR:** Why are you in favor of the law?

RECORD RESPONSE; **THEN SKIP TO Q. 6:** _____

_____

_____

ENTER "1" OPPOSITE THE FIRST ITEM MENTIONED, "2" OPPOSITE THE SECOND, ETC., UNTIL ALL MENTIONED ITEMS HAVE BEEN NUMBERED IN THE ORDER THEY ARE MENTIONED.

WOULD SAVE LIVES/REDUCE INJURIES (IN GENERAL).....		X	9
WOULD PROTECT ME/MY FAMILY.....		X	10
WOULD LOWER INSURANCE PREMIUMS.....		X	11
WOULD MAKE PEOPLE MORE SAFETY CONSCIOUS IN GENERAL.....		X	12
OTHER.....		X	13

5. **IF OPPOSED:** Why are you opposed to the law?

RECORD RESPONSE: _____

_____

_____

ENTER "1" OPPOSITE THE FIRST ITEM MENTIONED, "2" OPPOSITE THE SECOND, ETC., UNTIL ALL MENTIONED ITEMS HAVE BEEN NUMBERED IN THE ORDER THEY ARE MENTIONED.

INFRINGEMENT ON MY RIGHTS.....		X	14
LAW WOULD NOT BE ENFORCED/WHY BOTHER.....		X	15
LAW WOULD NOT BE ENFORCED FAIRLY/DISCRIMINATION.....		X	16
NEGATIVE STATEMENT ABOUT SEAT BELTS IN GENERAL.....		X	17
OTHER.....		X	18

6. How strictly do you think the law is being enforced? Would you say very strictly, somewhat strictly, not very strictly, or not enforced at all?.....

VERY	SOME	NOT VERY	NOT AT ALL		
3	2	1	0	X	19

VERY = 3; SOMEWHAT = 2; NOT VERY = 1; NOT AT ALL = 0

SKIP TO NEXT SECTION.

7. Suppose a law were proposed in your state that required drivers and front seat passengers to wear seat belts whenever they were riding in the car. Would you be strongly in favor of such a law, somewhat in favor, somewhat opposed, or strongly opposed to it?.....

FAVOR STR	FAVOR SOME	OPPOSE SOME	OPPOSE STR		
3	2	1	0	X	20

STRONGLY FAVOR = 3; SOMEWHAT FAVOR = 2 **(ASK Q. 8.)**;
SOMEWHAT OPPOSED = 1; STRONGLY OPPOSED = 0 **(SKIP TO Q. 9.)**

8. **IF FAVOR:** Why are you in favor of such a law?

RECORD RESPONSE; **THEN SKIP TO Q. 10:** _____

_____

_____

ENTER "1" OPPOSITE THE FIRST ITEM MENTIONED, "2" OPPOSITE THE SECOND, ETC., UNTIL ALL MENTIONED ITEMS HAVE BEEN NUMBERED IN THE ORDER THEY ARE MENTIONED.

WILL SAVE LIVES (IN GENERAL).....		X	21
WILL MAKE ME/MY FAMILY BUCKLE UP.....		X	22
WILL MAKE PEOPLE MORE SAFETY CONSCIOUS.....		X	23
WILL SAVE MONEY (INSURANCE, MEDICAL COSTS, ETC.).....		X	24
OTHER.....		X	25

9. **IF OPPOSED:** Why would you be opposed to such a law?

RECORD RESPONSE: _____

_____

_____

ENTER "1" OPPOSITE THE FIRST ITEM MENTIONED, "2" OPPOSITE THE SECOND, ETC., UNTIL ALL MENTIONED ITEMS HAVE BEEN NUMBERED IN THE ORDER THEY ARE MENTIONED.

INFRINGEMENT ON MY RIGHTS.....		X	26
LAW WOULD NOT BE ENFORCED/WHY BOTHER.....		X	27
LAW WOULD NOT BE ENFORCED FAIRLY/DISCRIMINATION.....		X	28
NEGATIVE STATEMENT ABOUT SEAT BELTS IN GENERAL.....		X	29
OTHER.....		X	30

IF STRONGLY OPPOSED (Q. 7), CODE Q. 10 "0" AND SKIP TO Q. 11.

10. If the law included a $25 fine for not wearing seat belts in the front seat, how would you feel about the law then--would you be strongly in favor, somewhat in favor, somewhat opposed or strongly opposed?.....

FAVOR STR	FAVOR SOME	OPPOSE SOME	OPPOSE STR		
3	2	1	0	X	31

STRONGLY FAVOR = 3; SOMEWHAT FAVOR = 2; SOMEWHAT OPPOSED = 1; STRONGLY OPPOSED = 0

11. If your state had a seat belt law, do you think you would almost always wear a seat belt, wear one most of the time, wear one only sometimes, or rarely, or never wear one?.....

ALL	MOST	SOME	RARE	NEV		
4	3	2	1	0	X	32

ALMOST ALL THE TIME = 4; MOST OF THE TIME = 3; ONLY SOMETIMES = 2; RARELY = 1; NEVER = 0

DEMOGRAPHICS

Finally, I'd like to ask a few questions about yourself.

1. What kind of car do you usually drive or ride in? (PROBE: What is the make, model, and year of the car?)
   IF VW RABBIT, TOYOTA CRESSIDA OR CHEVETTE: Does it have automatic seat belts?

   RECORD RESPONSE: MAKE _____

   MODEL _____

   YEAR _____

   CODE (a) YEAR, (b) WHETHER U.S. OR FOREIGN, (c) SIZE CATEGORY, AND (d) WHETHER MODEL HAS AUTOMATIC SEAT BELTS.

   (c) SIZE CODE:

   1 = SUBCOMPACT
   2 = COMPACT
   3 = MID SIZE
   4 = FULL SIZE
   5 = MID/LARGE STATION WAGON
   6 = VAN
   7 = LIGHT TRUCK

   (d) AUTOMATIC SEAT BELT CODE:

   0 = NO AUTOMATIC
   1 = CHEVETTE 78-79
   2 = CHEVETTE 80
   3 = TOYOTA CRESSIDA 81-85
   4 = VW RABBIT 75-82
   5 = VW RABBIT 83

(a) YEAR	(b) U.S. FOR.	(c) SIZE	(d) AUTO BELTS?	
XX	1 0 X	X	X	33-37

2. Do you intend to purchase a new car in the next five years?..... YES 1 NO 0 X — 38

3. About how many days a week do you usually drive a car?.... # DAYS X — 39

   NEVER OR LESS THAN ONCE A WEEK = 0.

4. And about how many days a week are you a passenger in a car?.....

# DAYS		40
	X	

5. Are most of your car trips short or long trips? By a long trip I mean more than 25 miles.....

LONG	1/2	SHORT		41
2	1	0	X	

6. How often do you wear seat belts when driving on long trips--would you say almost all the time, most of the time, only sometimes, rarely, or never?.....

ALL	MOST	SOME	RARE	NEV		42
4	3	2	1	0	X	

ALMOST ALL THE TIME = 4; MOST OF THE TIME = 3; ONLY SOMETIMES = 2; RARELY = 1; NEVER = 0.

7. How often do you wear seat belts when driving on short trips--would you say almost all the time, most of the time, only sometimes, rarely, or never?.....

ALL	MOST	SOME	RARE	NEV		43
4	3	2	1	0	X	

8. Would you consider the area in which you live to be a city, suburbs, a small town, or rural area?.....

CITY	SUB	TWN	RUR		44
3	2	1	0	X	

CITY = 3; SUBURBS = 2; SMALL TOWN = 1; RURAL = 0

9. Do you have any teenage children?.....

YES	NO		45
1	0	X	

10. Do you have any children age 5 or younger?.....

YES	NO		46
1	0	X	

IF NO CHILDREN 5 OR YOUNGER, SKIP TO Q. 12.

11. How often is the child in a child safety seat or a seat belt--would you say almost all the time, most of the time, some of the time, rarely or never?.....

ALL	MOST	SOME	RARE	NEV	
4	3	2	1	0	X

47

ALMOST ALL THE TIME = 4; MOST OF THE TIME = 3; SOME OF THE TIME = 2; RARELY = 1; NEVER = 0

12. Are you now married or single?.....

MAR	SNG	
1	0	X

48

MARRIED = 1; SINGLE = 0

13. What was the highest grade of school that you completed?.....

GRADE		
		XX

49-50

RECORD ACTUAL GRADE; EXAMPLES:
- High School Grad = 12
- Junior College = 14
- College Grad = 16
- Masters Degree = 18
- Ph.D./M.D. = 20

14. And my last question, how old are you?..... CODE HERE AND ENTER ON FRONT PAGE.

AGE		
		XX

51-52

THANK RESPONDENT.

TIME INTERVIEW ENDED _____ am/pm.....

# MINUTES		
		XX

53-54

INTERVIEWER SIGNATURE _____

INT. NO.	

55-56

APPENDIX B

TABLES

TABLE B-1

COMPARISON OF UNWEIGHTED AND WEIGHTED SAMPLES BY SUBGROUP

SUBGROUP	UNWEIGHTED		WEIGHTED	
	N	%	N	%
GENDER				
Female	575	47	627	52
Male	638	53	587	48
Unknown	0	0	0	0
Total	1213	100	1214	100
AGE				
18-29	316	26	327	27
30-39	304	25	308	25
40-59	319	26	302	25
60+	269	22	272	22
Unknown	5	1	5	< 1
Total	1213	100	1214	100
EDUCATION				
0-11 Years	167	14	166	14
High School Graduate	456	38	460	38
Some College	286	24	286	24
College Graduate	301	25	300	25
Unknown	3	< 1	2	< 1
Total	1213	100	1214	100
SEAT BELT USAGE				
Almost Always	518	43	520	43
Mostly Long Trips	373	31	373	31
Rarely	316	26	314	26
Unknown	6	< 1	7	1
Total	1213	100	1214	100
EXPERIENCE WITH AUTOMATIC BELTS				
None	726	60	738	61
Heard Only	316	26	310	26
Rode	147	12	144	12
Unknown	24	2	22	2
Total	1213	100	1214	100
INTENT TO BUY				
No	393	32	404	33
Yes	780	64	771	64
Unknown	40	3	39	3
Total	1213	100	1214	100

TABLE B-2

RESPONSE AND NONRESPONSE COMPONENTS OF TELEPHONE SAMPLE

OUTCOME OF CALLS	N	Results Including Unanswered Numbers	Results Excluding Unanswered Numbers
Completed Interview	1,213	44.0%	75.5%
Partial Interview	39	1.4	2.4
Refusals	207	7.5	12.8
Language Barrier	26	0.9	1.6
Impossible to Reach Respondent after at Least Four Attempts	121	4.4	7.5
	1,606		100.0%
Ring, No Answer	1,153	41.7	
	2,759	100.0%	

NOTES:

1. The response rate in this survey was 75.5 percent of the telephone numbers that were reached that contained an eligible respondent. Just under 13 percent of the potentially eligible respondents refused to participate in the survey. These rates are comparable with the response rates in other national telephone surveys, which are usually around 70 percent (Groves and Kahn, 1979).

2. In addition to the potentially eligible numbers shown, calls were placed to 824 nonworking numbers, 338 business numbers, and 105 residences without an eligible respondent. Also, phone calls to 70 numbers were stopped prior to close-out because interviews were no longer needed to complete stratum targets.

3. This method of presenting response rate information follows the format suggested by Robert M. Groves and Robert L. Kahn, Surveys by Telephone: A National Comparison with Personal Interviews (New York: Academic Press, 1979). Methodological work by Groves and Kahn suggests that most of the Ring, No Answer numbers after multiple call attempts were nonworking numbers.

TABLE B-3

GOOD/BAD POINTS MENTIONED ABOUT AUTOMATIC SAFETY BELTS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

GOOD/BAD POINTS ABOUT AUTOMATIC SAFETY BELTS	TOTAL U.S.		AGE					EDUCATION				
	n=1,214		18-29	30-39	40-59	60+	p[1]	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[1]
	% Mentioned First	% Mentioned Ever	n=327	n=308	n=302	n=272		n=166	n=460	n=286	n=300	
Direction First Mention:												
Good Point	49		57	51	49	37		40	49	48	54	
Bad Point	42	N/A	39	42	43	47		44	42	47	37	
No Response	9		6	7	8	16	*	17	9	5	9	*
Good Points Mentioned:			Percent Ever					Percent Ever				
Easier to use than manual	7	11	10	12	10	10		9	12	11	10	
Don't have to remember to fasten	31	46	54	48	47	33	*	36	45	49	49	*
Protection from injury	3	8	10	5	9	6		5	9	5	8	
Enforces safety	2	2	2	3	2	2		2	2	1	5	
Other Positive	6											
Bad Points Mentioned:			Percent Ever					Percent Ever				
Might not work/malfunction	9	17	19	17	15	19		19	15	21	16	
Might get trapped in accident	6	13	16	13	12	12		16	14	15	9	
Uncomfortable/not adjustable	7	13	14	13	11	14		12	11	13	17	
Don't want to be forced to use/Want to decide	6	10	10	12	11	8		5	9	15	11	*
Would probably cost more	2	7	6	7	9	6		3	7	5	11	*
Manual easier/safer	2	5	3	5	5	5		7	5	3	4	
Getting in and out would be inconvenient	3	7	9	7	5	6		6	4	8	12	*
Don't like seatbelts		4	3	3	5	7	*	10	5	3	1	*

[1]Asterisk (*) indicates differences are statiscally significant at the .05 level or better.

TABLE B-4

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AUTOMATIC SAFETY BELTS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

OPINIONS ABOUT AUTOMATIC SAFETY BELTS	TOTAL U.S.	GENDER			AGE					EDUCATION				
		Male	Female	p[1]	18-29	30-39	40-59	60+	p[1]	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[1]
	n=1,214	n=587	n=627		n=327	n=308	n=302	n=272		n=166	n=460	n=286	n=300	
Greatly Reduce Chances of Injury:														*
Agree Strongly	52	53	51		52	55	49	51		50	47	55	58	
Agree Somewhat	29	29	30		30	29	28	30		35	30	24	29	
Disagree Somewhat	12	10	13		12	10	13	12		8	14	13	9	
Disagree Strongly	7	8	6		6	6	10	7		7	9	8	4	
Family Protection:									*					
Agree Strongly	78	78	78		81	78	78	74		82	77	77	79	
Agree Somewhat	16	16	16		16	17	14	18		13	17	16	17	
Disagree Somewhat	4	4	4		2	4	6	4		3	5	5	2	
Disagree Strongly	2	2	2		1	1	2	4		2	1	2	2	
Don't Have to Remember to Buckle:									*					
Agree Strongly	74	71	76		72	78	74	72		72	73	74	75	
Agree Somewhat	19	21	18		23	16	19	18		20	20	17	20	
Disagree Somewhat	4	5	2		4	3	3	4		4	4	3	3	
Disagree Strongly	3	3	4		1	3	4	6		4	3	6	2	
Trap in Accident:														*
Agree Strongly	33	32	34		32	29	33	38		41	38	32	20	
Agree Somewhat	33	32	34		31	34	34	32		35	31	36	33	
Disagree Somewhat	17	18	17		20	19	13	18		12	17	16	22	
Disagree Strongly	17	18	15		17	18	20	12		12	14	16	25	

[1] Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE B-4 (Continued)

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AUTOMATIC SAFETY BELTS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

OPINIONS ABOUT AUTOMATIC SAFETY BELTS	TOTAL U.S.	GENDER			AGE					EDUCATION				
		Male	Female	p[1]	18-29	30-39	40-59	60+	p	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[1]
	n=1,214	n=587	n=627		n=327	n=308	n=302	n=272		n=166	n=460	n=286	n=300	
Malfunction/Breakdown:									*					*
Agree Strongly	34	35	33		29	28	37	44		44	36	34	26	
Agree Somewhat	37	34	39		36	41	36	34		26	37	39	41	
Disagree Somewhat	17	17	17		20	17	16	14		20	14	18	19	
Disagree Strongly	12	14	11		15	14	11	8		10	13	9	14	
Uncomfortable:														
Agree Strongly	19	21	17		17	20	18	20		23	20	19	15	
Agree Somewhat	25	23	27		27	22	22	30		26	26	24	23	
Disagree Somewhat	30	30	31		33	30	29	29		28	29	31	35	
Disagree Strongly	26	26	25		23	27	31	21		23	25	26	27	
Harder to Get In and Out:									*					
Agree Strongly	18	20	16		14	20	19	20		16	17	22	16	
Agree Somewhat	23	22	25		30	22	18	21		16	25	26	22	
Disagree Somewhat	32	32	31		34	27	32	34		35	31	28	34	
Disagree Strongly	27	26	28		22	31	31	25		33	27	24	28	
Nuisance for Short Trips:									*					*
Agree Strongly	21	23	18		19	17	17	30		33	21	22	11	
Agree Somewhat	17	15	18		17	16	17	16		18	19	16	13	
Disagree Somewhat	20	22	19		24	19	18	20		17	18	21	25	
Disagree Strongly	42	40	45		40	48	48	34		32	42	41	51	

[1] Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE B-5

CORRECT AND INCORRECT STATEMENTS GIVEN ABOUT AIR BAGS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

KNOWLEDGE ABOUT AIR BAGS	TOTAL U.S. HEARD[1]	GENDER			AGE					EDUCATION				
		Male	Female	p[2]	18-29	30-39	40-59	60+	p[2]	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[2]
	n=1,118	n=564	n=553		n=304	n=289	n=283	n=240		n=142	n=414	n=268	n=292	
Correct Statement - All Mentions:														
Inflates Automatically	62	63	61		66	67	65	50	*	41	65	62	68	*
Inflates in Head-On Collisions	37	46	29	*	44	44	34	25	*	32	33	43	41	*
Protects from Windshield, Steering Wheel, Dashboard	39	41	38		41	42	44	31	*	35	38	40	44	
Deflates Immediately	5	7	3	*	5	8	3	--	*	0	3	5	9	*
Must Be Replaced After Inflating	2	3	1	*	2	1	1	3	INS[3]	1	1	2	2	INS[3]
Would Add Cost to Car	4	5	3		3	4	6	5		3	4	5	5	
Incorrect Statement - All Mentions:														
Inflates by Mistake Frequently	4	5	3		5	3	4	4		4	2	6	4	
Stays Inflated/Can't See When It Inflates	1	1	1		> 1	0	1	2	INS[3]	2	1	< 1	1	
Might Not Inflate When Supposed To	3	3	3		3	3	3	2		4	2	3	2	
Protects in All Kinds of Accidents	3	3	3		1	4	4	2		4	2	3	2	
Don't Need Seat Belts With an Air Bag	1	< 1	1	INS[3]	0	< 1	1	1	INS[3]	1	1	< 1	< 1	INS[3]

1 Asked only of respondents who said they 'Had Heard' of air bags; data in table excludes 8% who had 'Not Heard' of air bags.
2 Asterisk (*) indicates differences are statistically significant at the .05 level or better.
3 INS indicates insufficient data for calculation of p in 25% of cells or more.

TABLE B-5 (Continued)

CORRECT AND INCORRECT STATEMENTS GIVEN ABOUT AIR BAGS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

KNOWLEDGE ABOUT AIR BAGS	TOTAL U.S. HEARD[1]	GENDER			AGE					EDUCATION				
		Male	Female	p[2]	18-29	30-39	40-59	60+	p[2]	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[2]
	n=1,118	n=564	n=553		n=304	n=289	n=283	n=240		n=142	n=414	n=268	n=292	
Total Mentioned:														
Correct Only	76	78	73		81	80	79	61		61	79	74	80	
Incorrect Only	3	3	3		1	3	4	4		6	2	4	2	
Both	6	8	5		1	6	6	7		5	6	8	7	
No Mentions	15	12	19	*	10	11	11	29	*	27	14	14	11	*

[2] Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE B-6

GOOD/BAD POINTS MENTIONED ABOUT AIR BAGS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

GOOD/BAD POINTS ABOUT AIR BAGS	TOTAL U.S.		GENDER			AGE					EDUCATION				
	n=1,214		Male	Female	p[1]	18-29	30-39	40-59	60+	p[1]	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[1]
	% Mentioned		n=587	n=627		n=327	n=308	n=302	n=272		n=166	n=460	n=286	n=300	
	First	Ever													
Direction First Mention:															
Good Point	48		47	48		53	51	45	41		47	49	46	47	
Bad Point	37	N/A	40	34		35	32	41	42		34	35	40	40	
No Response	15		13	17	*	13	17	14	17	*	19	16	13	14	
Good Points Mentioned:			Percent Ever			Percent Ever					Percent Ever				
Good Protection	30	43	42	43		50	44	39	37	*	40	45	44	40	
Protect Beyond Seat Belts	7	11	11	11		14	12	13	6	*	5	9	11	19	*
Protect Non-Seat Belt Users	2	4	5	3		4	4	3	4		2	5	3	3	
Work Automatically	3	7	6	7		6	6	8	6		6	5	8	8	
Other Positive	6	10	12	9	*	10	12	9	11		11	12	9	9	
Bad Points Mentioned:			Percent Ever			Percent Ever					Percent Ever				
Expensive to Replace	12	29	32	26	*	28	30	34	23	*	26	29	29	28	
Expensive	6	14	17	12	*	13	15	18	11		12	12	16	18	
Inflate Wrong Time	8	20	24	18	*	27	25	16	13	*	18	19	19	26	*
Mechanical Failure	2	5	6	4	*	5	3	4	8		6	4	3	7	*
Give Limited Protection	2	5	6	4		4	5	7	5		5	3	7	8	*
Not Know if Working Till Crash	2	6	7	5		7	7	4	7		7	5	7	7	
No Better Than Seat Belts	1	4	3	4		1	2	3	9	*	3	2	5	5	
Other Negative	6	13	13	13		13	14	14	13		12	11	16	15	

[1]Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE B-7

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AIR BAGS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

OPINIONS ABOUT AIR BAGS	TOTAL U.S.	GENDER			AGE					EDUCATION				
		Male	Female	p[1]	18-29	30-39	40-59	60+	p[1]	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[1]
	n=1,214	n=587	n=627		n=327	n=308	n=302	n=272		n=160	n=460	n=286	n=300	
Greatly Reduce Chances of Injury:				*					*					*
Agree Strongly	55	59	51		54	59	60	46		45	55	56	57	
Agree Somewhat	36	31	41		39	33	31	41		42	37	33	37	
Disagree Somewhat	6	7	5		6	5	6	7		6	5	9	4	
Disagree Strongly	3	3	3		1	3	3	6		7	3	2	2	
Family Protection:									*					
Agree Strongly	70	71	68		71	71	73	63		72	73	66	67	
Agree Somewhat	22	20	24		26	21	20	23		21	20	25	24	
Disagree Somewhat	5	6	5		3	5	5	8		3	5	6	6	
Disagree Strongly	3	3	3		< 1	3	2	6		4	2	3	3	
Less Likely to Cause Injury Than Seat Belts:														
Agree Strongly	26	29	23		23	32	23	27		32	23	28	26	
Agree Somewhat	39	38	41		42	36	41	38		33	40	40	42	
Disagree Somewhat	23	21	25		26	21	24	20		20	23	21	25	
Disagree Strongly	12	12	11		9	11	12	15		15	14	11	7	
Might Inflate by Mistake:														
Agree Strongly	34	34	33		33	33	32	36		40	33	35	28	
Agree Somewhat	47	44	50		47	48	43	50		46	46	49	48	
Disagree Somewhat	12	15	10		12	12	17	8		7	13	12	16	
Disagree Strongly	7	7	7		8	7	8	6		7	8	4	8	

[1]Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE B-7 (Continued)

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AIR BAGS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

OPINIONS ABOUT AIR BAGS	TOTAL U.S.	GENDER			AGE					EDUCATION				
		Male	Female	p[1]	18-29	30-39	40-59	60+	p[1]	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[1]
	n=1,214	n=587	n=627		n=327	n=308	n=302	n=272		n=160	n=460	n=286	n=300	
Driver Would Lose Control:				*					*					*
Agree Strongly	36	38	33		33	34	32	46		49	35	37	28	
Agree Somewhat	36	33	40		39	33	38	35		35	36	38	35	
Disagree Somewhat	17	15	18		19	18	17	11		10	17	13	22	
Disagree Strongly	11	14	9		9	15	13	8		6	12	12	14	
Driver Couldn't See:									*					*
Agree Strongly	40	42	37		35	38	39	51		50	41	41	31	
Agree Somewhat	35	32	39		40	33	36	29		36	33	37	36	
Disagree Somewhat	15	15	15		17	17	12	13		8	18	12	16	
Disagree Strongly	10	11	9		8	12	13	7		6	8	10	17	
Might Hit Dirver/Passenger Too Hard:				*					*					*
Agree Strongly	10	9	11		5	10	11	16		24	9	10	6	
Agree Somewhat	23	17	29		19	20	21	35		27	27	19	19	
Disagree Somewhat	29	31	27		35	30	27	22		22	30	31	28	
Disagree Strongly	38	43	32		41	40	41	27		27	34	40	47	

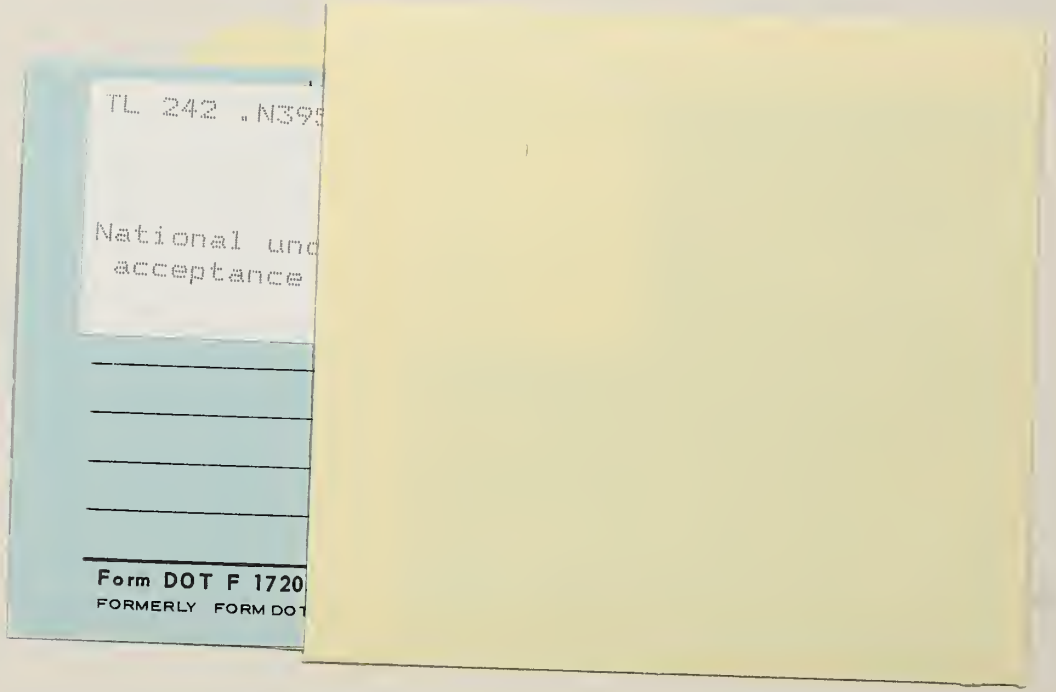
[1] Asterisk (*) indicates differences are statistically significant at the .05 level or better.

TABLE B-7 (Continued)

AGREEMENT/DISAGREEMENT WITH OPINION STATEMENTS ABOUT AIR BAGS
(FOR TOTAL U.S. POPULATION AND DEMOGRAPHIC SUBGROUPS)

OPINIONS ABOUT AIR BAGS	TOTAL U.S.	GENDER			AGE					EDUCATION				
		Male	Female	p[1]	18-29	30-39	40-59	60+	p[1]	< Than H.S.	H.S. Grad.	Some Coll.	Coll. Grad.	p[1]
	n=1,214	n=587	n=627		n=327	n=308	n=302	n=272		n=160	n=460	n=286	n=300	
Unsure Air Bags Would Work When Needed:				*					*					*
Agree Strongly	34	32	35		29	36	32	38		42	35	35	24	
Agree Somewhat	39	37	41		49	33	34	39		37	38	41	41	
Disagree Somewhat	15	17	14		14	15	18	13		10	16	13	18	
Disagree Strongly	12	14	10		8	16	16	10		11	11	11	17	
Not Enough Protection in All Types of Crashes:									*					*
Agree Strongly	39	39	39		33	33	42	49		50	40	39	30	
Agree Somewhat	32	30	33		31	34	30	32		31	31	35	31	
Disagree Somewhat	16	17	15		21	17	16	9		12	15	16	20	
Disagree Strongly	13	14	13		15	16	12	10		7	14	10	19	
Not Enough Protection for Children:				*					*					*
Agree Strongly	47	43	51		42	42	49	61		59	48	47	40	
Agree Somewhat	33	35	31		35	35	32	27		26	30	35	40	
Disagree Somewhat	13	14	11		16	15	10	7		7	15	12	12	
Disagree Strongly	7	8	7		7	9	8	5		8	7	6	8	

[1] Asterisk (*) indicates differences are statistically significant at the .05 level or better.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